08/520946
AH#15

=> s cleavase

L1 2 CLEAVASE

=> d l1,cit,ab,rel,1-2

1. 5,719,028, Feb. 17, 1998, **Cleavase** fragment length polymorphism; James E. Dahlberg, et al., 435/6, 19, 91.53, 199 [IMAGE AVAILABLE]

US PAT NO: 5,719,028 [IMAGE AVAILABLE] L1: 1 of 2

ABSTRACT:
A means for cleaving a nucleic acid cleavage structure in a site-specific manner is disclosed. A cleaving enzyme having 5' nuclease activity without interfering nucleic acid synthetic ability is employed as the basis of a novel method of detection of specific nucleic acid sequences.
REL-US-DATA: Continuation of Ser. No. 337,164, Nov. 9, 1994, abandoned, which is a continuation-in-part of Ser. No. 254,359, Jun. 6, 1994, Pat. No. 5,614,402, which is a continuation-in-part of Ser. No. 73,384, Jun. 4, 1993, Pat. No. 5,541,311, which is a continuation-in-part of Ser. No. 986,330, Dec. 7, 1992, Pat. No. 5,422,253.

2. 5,614,402, Mar. 25, 1997, 5' nucleases derived from thermostable DNA polymerase; James E. Dahlberg, et al., 435/199, 194 [IMAGE AVAILABLE]

US PAT NO: 5,614,402 [IMAGE AVAILABLE] L1: 2 of 2

ABSTRACT:
A means cleaving a nucleic acid cleavage structure in a site-specific manner is disclosed. A cleaving enzyme having 5' nuclease activity without interfering nucleic acid synthetic ability is employed as the basis of a novel method of detection of specific nucleic acid sequences.
REL-US-DATA: Continuation-in-part of Ser. No. 73,384, Jun. 4, 1993, Pat. No. 5,541,311, which is a continuation-in-part of Ser. No. 986,330, Dec. 7, 1992, Pat. No. 5,422,253.

=> s dna(w)polymerase

25720 DNA
10471 POLYMERASE
L2 6502 DNA(W)POLYMERASE

=> s nuclease?

L3 4145 NUCLEASE?

=> s l2(3w)l3 or l3(3w)l2

46 L2(3W)L3
54 L3(3W)L2
L4 98 L2(3W)L3 OR L3(3W)L2

=> d cit,ab,rel,1-98

1. 5,795,762, Aug. 18, 1998, 5' to 3' exonuclease mutations of thermostable DNA polymerases; Richard D. Abramson, et al., 435/194

US PAT NO: 5,795,762 L4: 1 of 98

ABSTRACT:
The present invention relates to thermostable DNA polymerases which exhibit a different level of 5' to 3' exonuclease activity than their respective native polymerases. Particular conserved amino acid domains in thermostable DNA polymerases are mutated or deleted to alter the 5' to 3' exonuclease activity of the polymerases. The present invention also relates to means for isolating and producing such altered polymerases.
REL-US-DATA: Continuation of Ser. No. 977,434, Feb. 23, 1993, Pat. No. 5,466,591, which is a continuation-in-part of Ser. No. 746,121, Aug. 15, 1991, Pat. No. 5,310,652, Ser. No. 590,213, Sep. 28, 1990, abandoned, Ser. No. 590,466, Sep. 28, 1990, Pat. No. 5,455,170, and Ser. No. 590,490, Sep. 28, 1990, abandoned, said Ser. No. 590,213, Ser. No. 590,466, and Ser. No. 590,499, each Ser. No. is a continuation-in-part of Ser. No. 523,394, May 15, 1990, Pat. No. 5,079,352, which is a continuation-in-part of Ser. No. 143,441, Jan. 12, 1988, Pat. No. 4,889,818, which is a continuation-in-part of Ser. No. 899,241, Aug. 22, 1986, said Ser. No. 746,121 is a continuation-in-part of Ser. No. 585,471, Sep. 20, 1990, abandoned, which is a continuation-in-part of Ser. No. 455,611, Dec. 22, 1989, Pat. No. 5,322,770, which is a continuation-in-part of Ser. No. 143,441, Jan. 12, 1988, said Ser. No. 746,121 is a continuation-in-part of Ser. No. 609,157, Nov. 2, 1990, abandoned, which is a continuation-in-part of Ser. No. 557,517, Jul. 24, 1990, abandoned.

2. 5,759,991, Jun. 2, 1998, Neurotrophic peptide derivatives; Naoki Tohdoh, et al., 514/2, 15, 16, 17; 530/327, 329, 350, 402 [IMAGE AVAILABLE]

US PAT NO: 5,759,991 [IMAGE AVAILABLE] L4: 2 of 98

ABSTRACT:
The invention provides human- or rat-derived neurotrophic peptides and derivatives thereof, precursor peptides thereof, genes encoding the same, transformants containing recombinant expression vectors bearing the genes, and compositions comprising as an effective ingredient these neurotrophic peptides or derivatives thereof. The neurotrophic peptide or its derivatives of the present invention have a neurotrophic activity and are useful for the treatment of neuro-degenerative disorders and dementia.
REL-US-DATA: Continuation-in-part of Ser. No. 873,764, Apr. 27, 1992, abandoned, and Ser. No. 758,043, Sep. 12, 1991, abandoned, which is a continuation-in-part of Ser. No. 501,217, Mar. 29, 1990, abandoned.

3. 5,756,101, May 26, 1998, Malaria recombinant poxvirus; Enzo Paoletti, et al., 424/199.1, 272.1; 435/69.3, 235.1; 935/65 [IMAGE AVAILABLE]

US PAT NO: 5,756,101 [IMAGE AVAILABLE] L4: 3 of 98

ABSTRACT:
What is described is a recombinant poxvirus, such as vaccinia virus, containing foreign DNA from Plasmodium Merozoite Surface Antigen 1. What is also described is a vaccine containing the recombinant poxvirus for inducing an immunological response in a host animal inoculated with the vaccine.
REL-US-DATA: Continuation of Ser. No. 724,109, Jul. 1, 1991, abandoned.

4. 5,753,439, May 19, 1998, Nucleic acid detection methods; Cassandra L. Smith, et al., 435/6, 5, 91.2; 536/24.3, 24.32, 24.33 [IMAGE AVAILABLE]

US PAT NO: 5,753,439 [IMAGE AVAILABLE] L4: 4 of 98

ABSTRACT:
The invention relates to methods for rapidly determining the sequence and/or length a target sequence. The target sequence may be a series of known or unknown repeat sequences which are hybridized to an array of probes. The hybridized array is digested with a single-strand nuclease and free 3'-hydroxyl groups extended with a nucleic acid polymerase. Nuclease cleaved heteroduplexes can be easily distinguish from nuclease uncleaved heteroduplexes by differential labeling. Probes and target can be differentially labeled with detectable labels. Matched target can be detected by cleaving resulting loops from the hybridized target and creating free 3-hydroxyl groups. These groups are recognized and extended by polymerases added into the reaction system which also adds or releases one label into solution. Analysis of the resulting products using either solid phase or solution. These methods can be used to detect characteristic nucleic acid sequences, to determine target sequence and to screen for genetic defects and disorders. Assays can be conducted on solid surfaces allowing for multiple reactions to be conducted in parallel and, if desired, automated.

5. 5,728,552, Mar. 17, 1998, DNA encoding a fusion protein comprising a viral antigen and lymphokine; Yukio Fujisawa, et al., 435/69.5, 69.52, 69.7, 252.3; 530/351, 403; 536/23.4 [IMAGE AVAILABLE]

US PAT NO: 5,728,552 [IMAGE AVAILABLE] L4: 5 of 98

ABSTRACT:
Disclosed are (1) a fused protein obtained by combining an antigen used for vaccine and a lymphokine by the application of gene engineering, (2) a recombinant DNA containing a nucleotide sequence coding for the above

fused protein, (3) a transformant bearing the above recombinant DNA, (4) a method for producing the fused protein which comprises cultivating the above transformant, producing and accumulating the above fused protein in a culture, and collecting the fused protein, and (5) a hybrid protein obtained by chemically combining an antigen used for vaccine with a lymphokine. The resulting fused and hybrid proteins have strong immunogenicity.

REL-US-DATA: Division of Ser. No. 386,354, Feb. 8, 1995, Pat. No. 5,556,946, which is a continuation of Ser. No. 86,429, Jun. 30, 1993, abandoned, which is a continuation of Ser. No. 548,509, Jul. 2, 1990, abandoned.

6. 5,719,028, Feb. 17, 1998, Cleavase fragment length polymorphism; James E. Dahlberg, et al., 435/6, 19, 91.53, 199 [IMAGE AVAILABLE]

US PAT NO: 5,719,028 [IMAGE AVAILABLE] L4: 6 of 98

ABSTRACT:
A means for cleaving a nucleic acid cleavage structure in a site-specific manner is disclosed. A cleaving enzyme having 5' nuclease activity without interfering nucleic acid synthetic ability is employed as the basis of a novel method of detection of specific nucleic acid sequences.

REL-US-DATA: Continuation of Ser. No. 337,164, Nov. 9, 1994, abandoned, which is a continuation-in-part of Ser. No. 254,359, Jun. 6, 1994, Pat. No. 5,614,402, which is a continuation-in-part of Ser. No. 73,384, Jun. 4, 1993, Pat. No. 5,541,311, which is a continuation-in-part of Ser. No. 986,330, Dec. 7, 1992, Pat. No. 5,422,253.

7. 5,710,267, Jan. 20, 1998, Ocs-element; Jeff G. Ellis, et al., 536/24.1; 435/69.1, 70.1, 172.3, 418; 536/23.2, 23.6, 23.71 [IMAGE AVAILABLE]

US PAT NO: 5,710,267 [IMAGE AVAILABLE] L4: 7 of 98

ABSTRACT:
A DNA fragment is provided which is a plant enhancer element capable of activating or enhancing the transcription level of a plant-expressible gene consisting essentially of a consensus sequence selected from the group consisting of ##STR1## and its reverse sequence. Said DNA fragment may also contain a second sequence 5'-ACGTAAGCGCTTACGT-3'. These sequences bind with ocs transcription factor.

REL-US-DATA: Continuation of Ser. No. 525,897, May 18, 1990, Pat. No. 5,573,932, which is a continuation-in-part of Ser. No. 11,614, Feb. 6, 1987, abandoned.

8. 5,674,738, Oct. 7, 1997, DNA encoding thermostable nucleic acid polymerase enzyme from thermus species Z05; Richard D. Abramson, et al., 435/252.3, 252.33, 320.1, 325, 419; 536/23.2 [IMAGE AVAILABLE]

US PAT NO: 5,674,738 [IMAGE AVAILABLE] L4: 8 of 98

ABSTRACT:
A purified thermostable enzyme is derived from the eubacterium Thermus species Z05. The enzyme has DNA polymerase, activity reverse transcriptase activity, and optionally 5'.fwdarw.3' exonuclease activity. The enzyme can be native or recombinant, and may be used with primers and nucleoside triphosphates in a temperature-cycling chain reaction where at least one nucleic acid sequence is amplified in quantity from an existing sequence.

REL-US-DATA: Division of Ser. No. 113,531, Aug. 27, 1993, Pat. No. 5,455,170, which is a continuation of Ser. No. 590,466, Sep. 28, 1990, abandoned, which is a continuation-in-part of Ser. No. 523,394, May 15, 1990, Pat. No. 5,079,352, which is a continuation-in-part of Ser. No. 143,441, Jan. 12, 1988, abandoned, which is a continuation-in-part of Ser. No. 63,509, Jun. 17, 1987, Pat. No. 4,889,818, which is a continuation-in-part of Ser. No. 899,241, Aug. 22, 1986, abandoned.

9. 5,672,692, Sep. 30, 1997, Purification of human myelomonocyte interferon gamma with an immobilized antibody; Masashi Kurimoto, et al., 530/413; 424/85.5; 435/2, 70.21, 70.5, 378, 383, 395; 436/518, 548; 530/351 [IMAGE AVAILABLE]

US PAT NO: 5,672,692 [IMAGE AVAILABLE] L4: 9 of 98

ABSTRACT:
A human myelomonocyte interferon-gamma having a novel polypeptide and carbohydrate chain structure is produced by propagation of an established human myelomonocyte in vitro or after being implanted in a non-human warm-blooded animal or in a diffusion chamber placed inside or outside the body of the animal. The human myelomonocyte may be contacted with an inducer during propagation. A monoclonal antibody specific to the human myelomonocyte interferon-gamma is produced by immunizing a non-human warm-blooded animal with purified human myelomonocyte interferon-gamma as
an antigen, recovering an antibody producing cell from the animal and fusing the cell with a myeloma cell to produce a hybrid capable of producing the monoclonal antibody. The human myelomonocyte interferon-gamma can be purified by chromatography with an immobilized anti-human myelomonocyte interferon-gamma antibody such as the monoclonal antibody. The human myelomonocyte interferon-gamma can be used as a prophylactic and therapeutic agent for human interferon-gamma susceptive diseases.

REL-US-DATA: Division of Ser. No. 476,040, Jun. 7, 1995, Pat. No. 5,554,515, which is a division of Ser. No. 336,224, Nov. 7, 1994, Pat. No. 5,518,899, which is a division of Ser. No. 62,323, May 17, 1993, Pat. No. 5,362,490, which is a continuation of Ser. No. 658,740, Feb. 22, 1991, abandoned, which is a continuation-in-part of Ser. No. 78,005, Jul. 21, 1987, abandoned, and Ser. No. 379,318, Jul. 13, 1989, abandoned.

10. 5,643,734, Jul. 1, 1997, Methods for protein binding enzyme complementation assays; Daniel Robert Henderson, 435/7.6, 7.9, 18, 975; 436/501, 537, 544 [IMAGE AVAILABLE]

US PAT NO: 5,643,734 [IMAGE AVAILABLE] L4: 10 of 98

ABSTRACT:
This invention relates to improved methods and novel compositions for enzyme complementation assays for qualitative and quantitative determination of a suspected analyte in a sample. The use of enzyme-acceptor and enzyme-donor polypeptides prepared by recombinant DNA
techniques, DNA synthesis or chemical polypeptide synthesis techniques which are capable of interacting to form an active enzyme complex having catalytic activity characteristic of .beta.-galactosidase is described. Both homogeneous and heterogeneous assays utilizing these polypeptides are described.

REL-US-DATA: Continuation of Ser. No. 268,711, Jun. 30, 1994, which is a continuation of Ser. No. 841,125, Feb. 25, 1992, abandoned, which is a continuation of Ser. No. 788,370, Oct. 22, 1985, Pat. No. 5,120,653, which is a continuation-in-part of Ser. No. 721,267, Apr. 8, 1985, Pat. No. 4,708,929, which is a continuation-in-part of Ser. No. 666,080, Oct. 29, 1984, abandoned, which is a continuation-in-part of Ser. No. 585,356, Mar. 1, 1984, abandoned.

11. 5,629,179, May 13, 1997, Method and kit for making CDNA library; Robert C. Mierendorf, et al., 435/91.2, 91.51; 536/24.33 [IMAGE AVAILABLE]

US PAT NO: 5,629,179 [IMAGE AVAILABLE] L4: 11 of 98

ABSTRACT:
A method for forming directionally clonable randomly primed cDNA molecules includes the step of priming first strand synthesis using a set of first strand cDNA primers having the sequence 5'-XXNNNNNN-3' where XX
is a constant dinucleotide pair across the set and NNNNNN is a random hexanucleotide, the set including primers representing all random hexanucleotides.

12. 5,622,838, Apr. 22, 1997, DNA preparation coding for ricin A and methods of using same; John M. Lord, et al., 435/69.1, 252.3, 252.31, 252.33, 252.35, 254.11, 254.21, 325, 418, 419; 536/23.6 [IMAGE AVAILABLE]

US PAT NO: 5,622,838 [IMAGE AVAILABLE] L4: 12 of 98

ABSTRACT:
A DNA preparation is provided which comprises a nucleotide sequence coding for at least a portion of the precursor polypeptide of ricin. Also provided are recombinant DNA molecules containing such a nucleotide sequence, as well as microorganisms transformed with such recombinant DNA

molecules.
REL-US-DATA: Continuation of Ser. No. 630,815, Jul. 13, 1984, abandoned.

13. 5,618,830, Apr. 8, 1997, Dioxobutanoic acid derivatives as inhibitors of influenza endonuclease; Harold G. Selnick, et al., 514/358, 317, 318 [IMAGE AVAILABLE]

US PAT NO: 5,618,830 [IMAGE AVAILABLE] L4: 13 of 98

ABSTRACT:
Dioxobutanoic acids substituted with piperidine or similar N-substituted saturated cycloalkyls are found to inhibit the cap-dependent endonuclease of influenza virus. These compounds are useful in the prevention or treatment of infection by influenza virus and the treatment of influenza, either as compounds, pharmaceutically acceptable salts, pharmaceutical composition ingredients, whether or not in combination with other antivirals, immunomodulators, antibiotics or vaccines. Methods of treating influenza and methods of preventing or treating infection by influenza virus are also described.
REL-US-DATA: Division of Ser. No. 324,190, Oct. 17, 1994, Pat. No. 5,475,109.

14. 5,614,402, Mar. 25, 1997, 5' **nucleases** derived from thermostable **DNA** **polymerase**; James E. Dahlberg, et al., 435/199, 194 [IMAGE AVAILABLE]

US PAT NO: 5,614,402 [IMAGE AVAILABLE] L4: 14 of 98

ABSTRACT:
A means cleaving a nucleic acid cleavage structure in a site-specific manner is disclosed. A cleaving enzyme having 5' nuclease activity without interfering nucleic acid synthetic ability is employed as the basis of a novel method of detection of specific nucleic acid sequences.
REL-US-DATA: Continuation-in-part of Ser. No. 73,384, Jun. 4, 1993, Pat. No. 5,541,311, which is a continuation-in-part of Ser. No. 986,330, Dec. 7, 1992, Pat. No. 5,422,253.

15. 5,609,869, Mar. 11, 1997, Hybrid immunoglobulin-thrombolytic enzyme molecules which specifically bind a thrombus, and methods of their production and use; Thomas Quertermous, et al., 424/133.1, 134.1, 136.1, 139.1, 178.1, 192.1; 435/69.3, 172.2, 172.3, 252.3; 530/387.3, 388.25, 389.3; 536/23.4, 23.53 [IMAGE AVAILABLE]

US PAT NO: 5,609,869 [IMAGE AVAILABLE] L4: 15 of 98

ABSTRACT:
Hybrid immunoglobulin-enzyme molecules are provided which are composed of
antibodies, or derivatives or fragments thereof, which specifically bind an arterial or venous thrombus that are operably linked to the enzymatically active portions of thrombolytic enzymes such as plasminogen activators. In a preferred embodiment the hybrid molecules specifically bind to fibrin and have fibrinolytic activity. The hybrid molecules of the present invention may be produced by any means, including chemical conjugation, or by means of recombinant DNA, genetic engineering and/or hybridoma technology. Methods for making and using the molecules in diagnosis and therapy are also disclosed.
REL-US-DATA: Division of Ser. No. 96,173, Jul. 26, 1993, which is a continuation-in-part of Ser. No. 2,861, Jan. 15, 1993, and Ser. No. 589,435, Sep. 27, 1990, which is a continuation-in-part of Ser. No. 435,485, Jul. 7, 1989, abandoned, said Ser. No. 2,861 is a continuation of Ser. No. 234,051, Aug. 19, 1988, abandoned.

16. 5,607,842, Mar. 4, 1997, Use of tRNA genes to stabilize the inheritance of unstable plasmids in populations of growing cells; Stanley N. Cohen, et al., 435/69.1, 252.3, 252.33, 320.1 [IMAGE AVAILABLE]

US PAT NO: 5,607,842 [IMAGE AVAILABLE] L4: 16 of 98

ABSTRACT:
Expression systems are provided, where plasmids can be safely maintained in a prokaryotic host, by providing for a tRNA gene for an essential tRNA in a tRNA gene negative background. A non-selective medium can be employed to permit vigorous growth of the host and efficient expression of a protein of interest.
REL-US-DATA: Continuation of Ser. No. 955,982, Oct. 2, 1992, abandoned.

17. 5,604,098, Feb. 18, 1997, Methods and materials for restriction endonuclease applications; David Mead, et al., 435/6, 91.1, 91.2, 172.1, 810; 536/23.1, 24.32, 24.33, 25.3, 25.32; 935/77, 78 [IMAGE AVAILABLE]

US PAT NO: 5,604,098 [IMAGE AVAILABLE] L4: 17 of 98

ABSTRACT:
The present invention is directed to materials and methods for the quasi-random and complete fragmentation of DNA using restriction endonuclease reagents capable of cutting DNA at a dinucleotide sequence. The invention is also directed to methods for labeling DNA using template-specific oligonucleotides, for shotgun cloning, for sequencing of DNA, for epitope mapping and for anonymous primer cloning, all using fragments of DNA generated by the method of the present invention.
REL-US-DATA: Continuation of Ser. No. 36,481, Mar. 24, 1993, abandoned.

18. 5,604,091, Feb. 18, 1997, Methods for protein binding enzyme complementation; Daniel R. Henderson, 435/5, 7.6, 7.8, 7.9, 18, 172.3, 207; 436/501, 512, 537, 544; 530/309, 324, 807; 930/240; 935/47 [IMAGE AVAILABLE]

US PAT NO: 5,604,091 [IMAGE AVAILABLE] L4: 18 of 98

ABSTRACT:
This invention relates to improved methods and novel compositions for enzyme complementation assays for qualitative and quantitative determination of a suspected analyte in a sample. The use of enzyme-acceptor and enzyme-donor polypeptides prepared by recombinant DNA
techniques, DNA synthesis or chemical polypeptide synthesis techniques which are capable of interacting to form an active enzyme complex having catalytic activity characteristic of .beta.-galactosidase is described. Both homogeneous and heterogeneous assays utilizing these polypeptides are described.
REL-US-DATA: Continuation of Ser. No. 841,125, Feb. 25, 1992, abandoned, which is a continuation of Ser. No. 788,370, Oct. 22, 1985, Pat. No. 5,120,653, which is a continuation-in-part of Ser. No. 721,267, Apr. 8, 1985, Pat. No. 4,708,929, which is a continuation-in-part of Ser. No. 666,080, Oct. 29, 1984, abandoned, which is a continuation-in-part of Ser. No. 585,356, Mar. 1, 1984, abandoned.

19. 5,595,887, Jan. 21, 1997, Purification directed cloning of peptides using carbonic anhydrase as the affinity binding segment; Thomas R. Coolidge, et al., 435/69.7, 68.1 [IMAGE AVAILABLE]

US PAT NO: 5,595,887 [IMAGE AVAILABLE] L4: 19 of 98

ABSTRACT:
Methods are presented for producing and purifying a variable fusion polypeptide which can be purified by affinity chromatography with the binding protein partner. The variable fusion polypeptide construct has tandem coupled segments containing one or more copies of a desired peptide linked to carbonic anhydrase as the purification binding protein. In the methods, the fusion protein is expressed in a recombinant host using a recombinant vector containing a gene encoding the fusion polypeptide. Then the expressed fusion polypeptide is purified by immobilized reversible inhibitor affinity chromatography. Finally, the purified fusion polypeptide is cleaved from the desired peptides by chemical or enzymatic means and the desired peptides purified with affinity chromatography.

20. 5,589,367, Dec. 31, 1996, Recombinant plant viral nucleic acids; Jon Donson, et al., 435/172.3, 69.1, 70.1, 320.1; 536/23.72, 24.1; 800/205; 935/25, 57, 64, 67 [IMAGE AVAILABLE]

US PAT NO: 5,589,367 [IMAGE AVAILABLE] L4: 20 of 98

ABSTRACT:
The present invention is directed to recombinant plant viral nucleic acids and to hosts infected thereby. The recombinant plant viral nucleic acids comprise a native plant viral subgenomic promoter, at least one non-native plant viral subgenomic promoter, a plant viral coat protein coding sequence, and optionally, at least one non-native nucleic acid sequence to be transcribed or expressed in the infected host plant. The recombinant plant viral nucleic acids are stable, capable of systemic infection and capable of stable transcription or expression in the plant host of the non-native nucleic acid sequences.

REL-US-DATA: Continuation of Ser. No. 923,692, Jul. 31, 1992, Pat. No. 5,316,931, which is a continuation-in-part of Ser. No. 600,244, Oct. 22, 1990, abandoned, Ser. No. 641,617, Jan. 16, 1991, abandoned, Ser. No. 737,899, Jul. 26, 1991, abandoned, and Ser. No. 739,143, Aug. 1, 1991, abandoned, said Ser. No. 600,244 is a continuation of Ser. No. 310,881, Feb. 17, 1989, abandoned, which is a continuation-in-part of Ser. No. 160,766, Feb. 26, 1988, abandoned, and Ser. No. 160,771, Feb. 26, 1988, abandoned, said Ser. No. 641,617 is a continuation of Ser. No. 347,637, May 5, 1989, abandoned, said Ser. No. 737,899 is a continuation of Ser. No. 363,138, Jun. 8, 1989, abandoned, which is a continuation-in-part of Ser. No. 219,279, Jul. 15, 1988, abandoned.

21. 5,573,932, Nov. 12, 1996, Ocs element; Jeff G. Ellis, et al., 435/172.3, 69.1, 70.1, 252.2; 536/23.6, 23.71, 24.1 [IMAGE AVAILABLE]

US PAT NO: 5,573,932 [IMAGE AVAILABLE] L4: 21 of 98

ABSTRACT:
A DNA fragment is provided which is a plant enhancer element capable of activating or enhancing the transcription level of a plant-expressible gene consisting essentially of a consensus sequence selected from the group consisting of ##STR1## and its reverse sequence. Said DNA fragment may also contain a second sequence 5'-ACGTAAGCGCTTACGT-3'. These sequences bind with ocs transcription factor.
REL-US-DATA: Continuation-in-part of Ser. No. 11,614, Feb. 6, 1987, abandoned.

22. 5,556,946, Sep. 17, 1996, Interleukin-2/viral antigen protein chimers; Yukio Fujisawa, et al., 530/351; 435/69.52, 69.7; 530/395, 403; 536/23.4 [IMAGE AVAILABLE]

US PAT NO: 5,556,946 [IMAGE AVAILABLE] L4: 22 of 98

ABSTRACT:
Disclosed are (1) a fused protein obtained by combining an antigen used for vaccine and a lymphokine by the application of gene engineering, (2) a recombinant DNA containing a nucleotide sequence coding for the above fused protein, (3) a transformant bearing the above recombinant DNA, (4) a method for producing the fused protein which comprises cultivating the above transformant, producing and accumulating the above fused protein in a culture, and collecting the fused protein, and (5) a hybrid protein obtained by chemically combining an antigen used for vaccine with a lymphokine. The resulting fused and hybrid proteins have strong immunogenicity.
REL-US-DATA: Continuation of Ser. No. 86,429, Jun. 30, 1993, abandoned, which is a continuation of Ser. No. 548,509, Jul. 2, 1990, abandoned.

23. 5,554,515, Sep. 10, 1996, Preparation of a monoclonal antibody specific to human myelomonocyte interferon-gamma; Masashi Kurimoto, et al., 435/70.21; 424/85.5; 435/70.5; 436/548; 530/351 [IMAGE AVAILABLE]

US PAT NO: 5,554,515 [IMAGE AVAILABLE] L4: 23 of 98

ABSTRACT:
A human myelomonocyte interferon-gamma having a novel polypeptide and carbohydrate chain structure is produced by propagation of an established human myelomonocyte in vitro or after being implanted in a non-human warm-blooded animal or in a diffusion chamber placed inside or outside the body of the animal. The human myelomonocyte may be contacted with an inducer during propagation. A monoclonal antibody specific to the human myelomonocyte interferon-gamma is produced by immunizing a non-human warm-blooded animal with purified human myelomonocyte interferon-gamma as
an antigen, recovering an antibody producing cell from the animal and fusing the cell with a myeloma cell to produce a hybrid capable of producing the monoclonal antibody. The human myelomonocyte interferon-gamma can be purified by chromatography with an anti-human myelomonocyte interferon-gamma antibody such as the monoclonal antibody. The human myelomonocyte interferon-gamma can be used as a prophylactic and therapeutic agent for human interferon-gamma susceptive diseases.
REL-US-DATA: Division of Ser. No. 336,224, Nov. 7, 1994, which is a division of Ser. No. 62,323, May 17, 1993, Pat. No. 5,362,490, which is a continuation of Ser. No. 658,740, Feb. 22, 1991, abandoned, which is a continuation-in-part of Ser. No. 78,005, Jul. 21, 1987, abandoned, and a continuation-in-part of Ser. No. 379,318, Jul. 13, 1989, abandoned.

24. 5,518,899, May 21, 1996, Preparation of human myelomonocyte interferon-gamma; Masashi Kurimoto, et al., 435/70.5; 424/85.5; 530/351 [IMAGE AVAILABLE]

US PAT NO: 5,518,899 [IMAGE AVAILABLE] L4: 24 of 98

ABSTRACT:
The present invention relates to a novel human interferon-gamma derived from an established human myelomonocyte, a process to prepare said interferon-gamma, and its use. The human myelomonocyte interferon-gamma has a novel polypeptide and carbohydrate chain structure, and it is effective in preventing and treating viral diseases, malignant tumors and immunopathies alone or in combination with other lymphokine and/or chemotherapeutic. The human myelomonocyte interferon-gamma may be produced by culturing an established human myelomonocyte on a culture medium in vitro. Alternatively, an established human myelomonocyte is implanted in a non-human warm-blooded animal or in a diffusion chamber placed inside or outside the body of the animal, and then allowed to proliferate while receiving nutrient body fluid from the animal. The human myelomonocyte may be contacted with an inducer during propagation.
REL-US-DATA: Division of Ser. No. 62,323, May 17, 1993, Pat. No. 5,362,490, which is a continuation of Ser. No. 658,740, Feb. 22, 1991, abandoned, which is a continuation-in-part of Ser. No. 78,005, Jul. 21, 1987, abandoned, and a continuation-in-part of Ser. No. 379,318, Jul. 13, 1989, abandoned.

25. 5,487,972, Jan. 30, 1996, Nucleic acid detection by the 5'-3'exonuclease activity of polymerases acting on adjacently hybridized oligonucleotides; David H. Gelfand, et al., 435/6, 91.2, 810; 436/501; 536/22.1, 23.1, 24.1, 24.3, 24.31, 24.32, 24.33; 935/77, 78, 88 [IMAGE AVAILABLE]

US PAT NO: 5,487,972 [IMAGE AVAILABLE] L4: 25 of 98

ABSTRACT:
A process of detecting a target nucleic acid using labeled oligonucleotides which uses the 5' to 3' nuclease activity of a nucleic acid polymerase to cleave annealed labeled oligonucleotide from hybridized duplexes and thus releasing labeled oligonucleotide fragments for detection. This process is easily incorporated into a PCR amplification assay.
REL-US-DATA: Continuation-in-part of Ser. No. 563,758, Aug. 6, 1990, Pat. No. 5,210,015.

26. 5,486,462, Jan. 23, 1996, Differentiative expression modules; William J. Rutter, et al., 435/69.1, 172.3, 320.1, 352; 536/24.1; 935/13, 34, 36 [IMAGE AVAILABLE]

US PAT NO: 5,486,462 [IMAGE AVAILABLE] L4: 26 of 98

ABSTRACT:
More effectively controlled expression of DNA sequences in coding desired heterologous proteins is achieved in differentiated eucaryotic cells by methods of this invention. Disclosed herein are control modules derived from selectively expressed genes of eucaryotic cells, such as, for example, insulin and chymotrypsin genes. These control elements contain cis-acting sequences which are responsive to indigenous trans-acting substances in the differentiated cell, which substances control the expression of the gene. Such cis-acting elements occur within the promoter region of such selectively expressed genes, and also in the five prime flanking region of the coding sequence in a position upstream of the promoter. These upstream enhancer sequences may be located using the methods disclosed herein, and ligated into differentiative expression modules for production of desired heterologous proteins.
REL-US-DATA: Continuation of Ser. No. 768,345, Sep. 30, 1991, abandoned, which is a continuation of Ser. No. 327,366, Mar. 22, 1989, abandoned, which is a continuation of Ser. No. 196,781, May 18, 1988, abandoned, which is a continuation of Ser. No. 674,225, Nov. 23, 1984, abandoned.

27. 5,475,109, Dec. 12, 1995, Dioxobutanoic acid derivatives as inhibitors of influenza endonuclease; Harold G. Selnick, et al., 546/225; 540/480, 481, 482, 597, 598, 610; 544/311, 312; 546/153, 157, 168, 172, 193, 197, 199, 205, 207, 212, 214 [IMAGE AVAILABLE]

US PAT NO: 5,475,109 [IMAGE AVAILABLE] L4: 27 of 98

ABSTRACT:
Dioxobutanoic acids substituted with piperidine or similar N-substituted saturated cycloalkyls are found to inhibit the cap-dependent endonuclease of influenza virus. These compounds are useful in the prevention or treatment of infection by influenza virus and the treatment of influenza, either as compound, pharmaceutically acceptable salts,. pharmaceutical composition ingredients, whether or not in combination with other antivirals, immunomodulators, antibiotics or vaccines. Methods of treating influenza and methods of preventing or treating infection by influenza virus are also described.

28. 5,466,591, Nov. 14, 1995, 5' to 3' exonuclease mutations of thermostable DNA polymerases; Richard D. Abramson, et al., 435/194; 536/23.2; 935/10, 14 [IMAGE AVAILABLE]

US PAT NO: 5,466,591 [IMAGE AVAILABLE] L4: 28 of 98

ABSTRACT:

The present invention relates to thermostable DNA polymerases which have been mutated such that a lesser amount of 5' to 3' exonuclease activity is exhibited from that which is exhibited by the native enzyme.

REL-US-DATA: Continuation-in-part of Ser. No. 590,213, Sep. 28, 1990, abandoned, which is a continuation-in-part of Ser. No. 590,466, Sep. 28, 1990, abandoned, which is a continuation-in-part of Ser. No. 590,490, Sep. 28, 1990, abandoned, which is a continuation-in-part of Ser. No. 746,121, Aug. 15, 1991, abandoned, said Ser. No. 590,213, and Ser. No. 590,466, and Ser. No. 590,490, each is a continuation-in-part of Ser. No. 523,394, May 15, 1990, Pat. No. 5,079,352, which is a continuation-in-part of Ser. No. 143,441, Jan. 12, 1988, abandoned, which is a continuation-in-part of Ser. No. 63,509, Jun. 17, 1987, Pat. No. 4,889,818, which is a continuation-in-part of Ser. No. 899,241, Aug. 22, 1986, abandoned, said Ser. No. 746,121, Aug. 15, 1991, abandoned is a continuation-in-part of Ser. No. 585,471, Sep. 20, 1990, abandoned, which is a continuation-in-part of Ser. No. 455,611, Dec. 22, 1989, which is a continuation-in-part of Ser. No. 143,441, Jan. 12, 1988, abandoned, said Ser. No. 746,121 is a continuation-in-part of Ser. No. 609,157, Nov. 2, 1990, abandoned, which is a continuation-in-part of Ser. No. 557,517, Jul. 24, 1990, abandoned.

29. 5,455,170, Oct. 3, 1995, Mutated thermostable nucleic acid polymerase enzyme from Thermus species Z05; Richard D. Abramson, et al., 435/252.3, 194, 252.33, 320.1; 536/23.2; 935/10, 14 [IMAGE AVAILABLE]

US PAT NO: 5,455,170 [IMAGE AVAILABLE] L4: 29 of 98

ABSTRACT:
A purified thermostable enzyme is derived from the eubacterium Thermus species Z05. The enzyme has DNA polymerase, activity reverse transcriptase activity, and optionally 5'.fwdarw.3' exonuclease activity. The enzyme can be native or recombinant, and may be used with primers and nucleoside triphosphates in a temperature-cycling chain reaction where at least one nucleic acid sequence is amplified in quantity from an existing sequence.

REL-US-DATA: Continuation of Ser. No. 590,466, Sep. 28, 1990, abandoned, which is a continuation-in-part of Ser. No. 523,394, May 15, 1990, Pat. No. 5,079,352, which is a continuation-in-part of Ser. No. 143,441, Jan. 12, 1988, abandoned, which is a continuation-in-part of Ser. No. 63,509, Jun. 17, 1987, Pat. No. 4,889,818, which is a continuation-in-part of Ser. No. 899,241, Aug. 22, 1986, abandoned.

30. 5,436,143, Jul. 25, 1995, Method for enzymatic synthesis of oligonucleotides; Edward D. Hyman, 435/91.2, 91.1, 91.21, 91.3, 91.31; 536/24.33, 25.3, 25.31; 935/16, 88 [IMAGE AVAILABLE]

US PAT NO: 5,436,143 [IMAGE AVAILABLE] L4: 30 of 98

ABSTRACT:
Enzymatic synthesis of oligonucleotides may be performed in a single vessel without intermediate purification, by the steps of:
(a) combining a nucleotide primer sequence and a blocked nucleotide in the presence of a chain extending enzyme whereby a reaction mixture is formed containing the blocked nucleotide coupled to the nucleotide primer sequence at its 3' end;
(b) inactivating the chain extending enzyme;
(c) removing the blocking group from the primer-blocked nucleotide to form a primer-nucleotide product; and converting any unreacted blocked nucleotide to an unreactive form which is substantially less active as a substrate for the chain extending enzyme than the blocked nucleotide.

31. 5,434,063, Jul. 18, 1995, Sequential cloning of chromosomes; Sanford A. Lacks, 435/172.3, 91.1, 91.4 [IMAGE AVAILABLE]

US PAT NO: 5,434,063 [IMAGE AVAILABLE] L4: 31 of 98

ABSTRACT:
A method for sequential cloning of chromosomal DNA of a target organism is disclosed. A first DNA segment homologous to the chromosomal DNA to be sequentially cloned is isolated. The first segment has a first restriction enzyme site on either side. A first vector product is formed by ligating the homologous segment into a suitably designed vector. The first vector product is circularly integrated into the target organism's chromosomal DNA. The resulting integrated chromosomal DNA segment includes the homologous DNA segment at either end of the integrated vector segment. The integrated chromosomal DNA is cleaved with a second restriction enzyme and ligated to form a vector-containing plasmid, which is replicated in a host organism. The replicated plasmid is then cleaved with the first restriction enzyme. Next, a DNA segment containing the vector and a segment of DNA homologous to a distal portion of the previously isolated DNA segment is isolated. This segment is then ligated to form a plasmid which is replicated within a suitable host. This plasmid is then circularly integrated into the target chromosomal DNA. The chromosomal DNA containing the circularly integrated vector is treated with a third, retrorestriction (class IIS) enzyme. The cleaved DNA is ligated to give a plasmid that is used to transform a host permissive for replication of its vector. The sequential cloning process continues by repeated cycles of circular integration and excision. The excision is carried out altemately with the second and third enzymes.

32. 5,422,253, Jun. 6, 1995, Method of site specific nucleic acid cleavage; James E. Dahlberg, et al., 435/91.53; 436/6 [IMAGE AVAILABLE]

US PAT NO: 5,422,253 [IMAGE AVAILABLE] L4: 32 of 98

ABSTRACT:
A method of cleaving a target nucleic acid molecule is disclosed. A cleavage structure is formed that comprises the target nucleic acid and a pilot nucleic acid. A first region of the target nucleic acid is annealed to the pilot nucleic acid to form a duplex structure. A second region of the target nucleic acid contiguous to the duplex is not annealed to the pilot nucleic acid, thus forming a junction site between the duplex region and the non-annealed region. The cleavage structure is exposed to a cleavage agent capable of preferentially cleaving the cleavage structure at a target site in a manner independent of the sequence of the cleavage structure. The cleavage structure and the cleavage agent are incubated under conditions wherein cleavage can occur.

33. 5,367,064, Nov. 22, 1994, .alpha.-1-antichymotrypsin, analogues and methods of production; Harvey Rubin, et al., 536/23.2; 530/350, 397; 930/250 [IMAGE AVAILABLE]

US PAT NO: 5,367,064 [IMAGE AVAILABLE] L4: 33 of 98

ABSTRACT:
The invention provides .alpha.-1-antichymotrypsin and protein preparations comprising human .alpha.-1-antichymotrypsin produced by E. coli cells transformed with a DNA sequence encoding human .alpha.-1-antichymotrypsin. The invention also provides methods for producing .alpha.-1-antichymotrypsin. The invention further provides analogues of .alpha.-1-antichymotrypsin that exhibit antichymotrypsin, anti-trypsin and anti-thrombin activity and methods of producing the analogues.

REL-US-DATA: Division of Ser. No. 735,335, Jul. 24, 1991, Pat. No. 5,252,725, which is a division of Ser. No. 370,704, Jun. 23, 1989, Pat. No. 5,079,336.

34. 5,362,490, Nov. 8, 1994, Human myelomonocyte interferon-gamma, and process for preparation and use thereof; Masashi Kurimoto, et al.,

424/85.5, 85.1, 85.2, 85.6, 85.7; 435/70.5; 530/351, 413 [IMAGE AVAILABLE]

US PAT NO: 5,362,490 [IMAGE AVAILABLE] L4: 34 of 98

ABSTRACT:
The present invention relates to a novel human interferon-gamma derived from an established human myelomonocyte, a process to prepare said interferon-gamma, and its use. The human myelomonocyte interferon-gamma has a novel polypeptide and carbohydrate chain structure, and it is effective in preventing and treating viral diseases, malignant tumors and immunopathies alone or in combination with other lymphokine and/or chemotherapeutic.
REL-US-DATA: Continuation of Ser. No. 658,740, Feb. 22, 1991, abandoned, which is a continuation-in-part of Ser. No. 78,005, Jul. 21, 1987, abandoned, and a continuation-in-part of Ser. No. 379,318, Jul. 13, 1989, abandoned.

35. 5,354,664, Oct. 11, 1994, DNA encoding a human thrombomodulin having a modified glycosaminoglycan (GAG) binding site; Takeshi Doi, et al., 435/69.1, 320.1, 348, 357, 358, 367, 372; 530/381; 536/23.1, 23.5 [IMAGE AVAILABLE]

US PAT NO: 5,354,664 [IMAGE AVAILABLE] L4: 35 of 98

ABSTRACT:
Thrombin-binding substances capable of promoting anti-thrombin III activity and inhibiting platelet aggregation, and by themselves possessing anti-thrombin activity are disclosed. The thrombin-binding substances are useful as an effective component of anticoagulant agents, and can be produced inexpensively on a large scale.
REL-US-DATA: Division of Ser. No. 14,723, Feb. 8, 1993, Pat. No. 5,273,962, which is a continuation-in-part of Ser. No. 796,336, Nov. 22, 1991, abandoned.

36. 5,316,931, May 31, 1994, Plant viral vectors having heterologous subgenomic promoters for systemic expression of foreign genes; Jon Donson, et al., 435/172.3, 69.1, 70.1, 320.1; 536/23.72, 24.1; 800/205; 935/25, 57, 64, 67 [IMAGE AVAILABLE]

US PAT NO: 5,316,931 [IMAGE AVAILABLE] L4: 36 of 98

ABSTRACT:
The present invention is directed to recombinant plant viral nucleic acids and to hosts infected thereby. The recombinant plant viral nucleic acids comprise a native plant viral subgenomic promoter, at least one non-native plant viral subgenomic promoter, a plant viral coat protein coding sequence, and optionally, at least one non-native nucleic acid sequence to be transcribed or expressed in the infected host plant. The recombinant plant viral nucleic acids are stable, capable of systemic infection and capable of stable transcription or expression in the plant host of the non-native nucleic acid sequences.
REL-US-DATA: Continuation-in-part of Ser. No. 600,244, Oct. 22, 1990, abandoned, Ser. No. 641,617, Jan. 16, 1991, abandoned, Ser. No. 737,899, Jul. 26, 1991, abandoned, and Ser. No. 739,143, Aug. 1, 1991, abandoned, said Ser. No. 600,244 is a continuation of Ser. No. 310,881, Feb. 17, 1989, abandoned, which is a continuation-in-part of Ser. No. 160,766, Feb. 26, 1988, abandoned, and Ser. No. 160,771, Feb. 26, 1988, abandoned, said Ser. No. 641,617 is a continuation of Ser. No. 347,637, May 5, 1989, abandoned, said Ser. No. 737,899 is a continuation of Ser. No. 363,138, Jun. 8, 1989, abandoned, which is a continuation-in-part of Ser. No. 219,279, Jul. 15, 1988, abandoned.

37. 5,306,863, Apr. 26, 1994, Transformed plant which expresses an insecticidally effective amount of a Bowman-Birk tryspin inhibitor from Vigna unguiculata in leaves, stems or roots, and a method for the production thereof; Vaughan A. Hilder, et al., 800/205; 435/172.1, 172.3; 536/23.6; 935/67 [IMAGE AVAILABLE]

US PAT NO: 5,306,863 [IMAGE AVAILABLE] L4: 37 of 98

ABSTRACT:
The invention relates to a recombinant DNA molecule which comprises a structural gene coding for a trypsin inhibitor, in particular a trypsin inhibitor from a legume, more particularly from Vigna unguiculata (cowpea trypsin inhibitor or CpTI), or for a protein having properties resembling those of CpTI and/or having a substantial degree of homology therewith. The invention also relates to a recombinant DNA plasmid comprising such a DNA molecule, and to the incorporation of the DNA into the nuclear genome of a plant.
REL-US-DATA: Division of Ser. No. 656,039, Feb. 19, 1991, Pat. No. 5,218,104, which is a continuation of Ser. No. 492,337, Mar. 12, 1990, abandoned, which is a continuation of Ser. No. 134,842, Dec. 18, 1987, abandoned.

38. 5,273,962, Dec. 28, 1993, Human urinary thrombomodulin with a modified glycosaminoglycan (GAG) binding site; Takeshi Doi, et al., 514/8; 435/69.1, 69.3; 514/2; 530/380, 381 [IMAGE AVAILABLE]

US PAT NO: 5,273,962 [IMAGE AVAILABLE] L4: 38 of 98

ABSTRACT:
Recombinant thrombin-binding substances, derived from thrombomodulin by modification of the c-terminal glycosaminoglycan (GAG) binding site and capable of promoting anti-thrombin III activity and inhibiting platelet aggregation, and by themselves possessing anti-thrombin activity are disclosed. The thrombin-binding substances are useful as an effective component of anticoagulant agents, and can be produced inexpensively in a large scale.
REL-US-DATA: Continuation-in-part of Ser. No. 796,336, Nov. 22, 1991, abandoned.

39. 5,266,465, Nov. 30, 1993, .alpha.-1-antichymotrypsin, analogues and methods of production; Harvey Rubin, et al., 435/69.2, 69.1, 172.1, 172.3, 213; 530/350 [IMAGE AVAILABLE]

US PAT NO: 5,266,465 [IMAGE AVAILABLE] L4: 39 of 98

ABSTRACT:
The invention provides .alpha.-1-antichymotrypsin and protein preparations comprising human .alpha.-1-antichymotrypsin produced by E. coli cells transformed with a DNA sequence encoding human .alpha.-1-antichymotrypsin. The invention also provides methods for producing .alpha.-1-antichymotrypsin. The invention further provides analogues of .alpha.-1-antichymotrypsin that exhibit antichymotrypsin, anti-trypsin and anti-thrombin activity and methods of producing the analogues.
REL-US-DATA: Division of Ser. No. 370,704, Jun. 23, 1989, Pat. No. 5,079,336.

40. 5,252,725, Oct. 12, 1993, .alpha.-1-antichymotrypsin, analogues and methods of production; Harvey Rubin, et al., 536/23.5; 435/69.2, 172.1, 172.3, 213, 320.1 [IMAGE AVAILABLE]

US PAT NO: 5,252,725 [IMAGE AVAILABLE] L4: 40 of 98

ABSTRACT:
The invention provides .alpha.-1-antichymotrypsin and protein preparations comprising human .alpha.-1-antichymotrypsin produced by E. coli cells transformed with a DNA sequence encoding human .alpha.-1-antichymotrypsin. The invention also provides methods for producing .alpha.-1-antichymotrypsin. The invention further provides analogues of .alpha.-1-antichymotrypsin that exhibit antichymotrypsin, anti-trypsin and anti-thrombin activity and methods of producing the analogues.
REL-US-DATA: Division of Ser. No. 370,704, Jun. 23, 1989, Pat. No. 5,079,336.

41. 5,242,829, Sep. 7, 1993, Recombinant pseudorabies virus; Dennis L. Panicali, et al., 435/320.1; 424/199.1, 229.1, 232.1; 435/69.1, 69.3, 172.3 [IMAGE AVAILABLE]

US PAT NO: 5,242,829 [IMAGE AVAILABLE] L4: 41 of 98

ABSTRACT:
Monovalent and multivalent recombinant pox viruses which express immunogenic proteins of pseudorabies viruses are provided for use as live vaccines against pseudorabies virus. DNA vectors for recombination with pox virus to introduce one or more genes into a pox viral genome are also provided.
REL-US-DATA: Continuation of Ser. No. 910,501, Sep. 23, 1986, abandoned.

42. 5,238,839, Aug. 24, 1993, Nucleic Acids Encoding proteins which

induce immunological effector cell activation and chemattraction, vectors, and recombinant cells; Harvey I. Cantor, et al., 435/365, 252.3, 252.33, 254.21, 320.1; 536/23.5 [IMAGE AVAILABLE]

US PAT NO: 5,238,839 [IMAGE AVAILABLE] L4: 42 of 98

ABSTRACT:
The present invention relates to genes and their encoded proteins which induce immunological effector cell activation and chemattraction. The proteins of the invention attract subsets of immunological effector cells and stimulate them to express their specialized effector cell functions. Such proteins, termed Ap-1 proteins, are expressed by lymphoid cells, and bind to effector cells such as macrophages and mast cells. In particular, the Ap

Pursuant to the provisions of 35 U.S.C. .sctn.202(c), it is hereby acknoledged that the Governament has certain rights in this invention, which was made in part with funds from the National Institutes of Health.
REL-US-DATA: Division of Ser. No. 153,887, Feb. 9, 1988, Pat. No. 5,049,659, Sep. 17, 1991.

43. 5,218,104, Jun. 8, 1993, Bowman-Birk trypsin inhibitor isolated from Vigna unguiculata; Vaughan A. Hilder, et al., 435/320.1, 172.1; 536/23.6; 935/9 [IMAGE AVAILABLE]

US PAT NO: 5,218,104 [IMAGE AVAILABLE] L4: 43 of 98

ABSTRACT:
The invention relates to an isolated recombinant DNA molecule which comprises a structural gene coding for a Bowman-Birk trypsin inhibitor from Vigna unguiculata. The invention also relates to a recombinant DNA plasmid comprising the Bowman-Birk trypsin inhibitor from Vigna unguiculata inserted in a DNA vector and a Ti plasmid of Agrobacterium tumefaciens.
REL-US-DATA: Continuation of Ser. No. 492,337, Mar. 12, 1990, abandoned, which is a continuation of Ser. No. 134,842, Dec. 18, 1987, abandoned.

44. 5,210,015, May 11, 1993, Homogeneous assay system using the nuclease activity of a nucleic acid polymerase; David H. Gelfand, et al., 435/6, 18, 91.2, 196, 805; 436/63, 501, 815; 536/24.3; 935/17, 77, 78, 88 [IMAGE AVAILABLE]

US PAT NO: 5,210,015 [IMAGE AVAILABLE] L4: 44 of 98

ABSTRACT:
The present invention is directed to a process of detecting a target nucleic acid using labeled oligonucleotides. This process uses the 5' to 3' nuclease activity of a nucleic acid polymerase to cleave annealed labeled oligonucleotide from hybridized duplexes and release labeled oligonucleotide fragments for detection. This process is easily incorporated into a PCR amplification assay.

45. 5,126,148, Jun. 30, 1992, Process to prepare metastasis-inhibitory factor; Masashi Kurimoto, et al., 424/577 [IMAGE AVAILABLE]

US PAT NO: 5,126,148 [IMAGE AVAILABLE] L4: 45 of 98

ABSTRACT:
Human hematopoietic cells produce metastasis-inhibitory factor (MIF). MIF exhibits a remarkable metastasis-inhibitory activity on viral diseases and immunopathies, as well as on malignant tumors. The MIF-producing human hematopoietic cells are easily proliferative by in vitro tissue culture and in vivo proliferation using a non-human warm-blooded animal. T cells exhibit a high MIF producibility. Mitogens augment the production of MIF when used as an MIF inducer.

46. 5,120,653, Jun. 9, 1992, Vector comprising DNA sequence coding for enzyme-donor polypeptide; Daniel R. Henderson, 435/252.33, 320.1 [IMAGE AVAILABLE]

US PAT NO: 5,120,653 [IMAGE AVAILABLE] L4: 46 of 98

ABSTRACT:
This invention relates to improved methods and novel compositions for enzyme complementation assays for qualitative and quantitative determination of a suspected analyte in a sample. The use of enzyme-acceptor and enzyme-donor polypeptides prepared by recombinant DNA techniques, DNA synthesis or chemical polypeptide synthesis techniques which are capable of interacting to form an active enzyme complex having catalytic activity characteristic of .beta.-galactosidase is described. Both homogeneous and heterogeneous assays utilizing these polypeptides are described.
REL-US-DATA: Continuation-in-part of Ser. No. 721,267, Apr. 8, 1985, Pat. No. 4,708,929, which is a continuation-in-part of Ser. No. 666,080, Oct. 29, 1984, abandoned, which is a continuation-in-part of Ser. No. 585,356, Mar. 1, 1984, abandoned.

47. 5,110,920, May 5, 1992, HLA typing method and DNA probes used therein; Henry A. Erlich, 536/24.31; 435/6; 935/77, 78 [IMAGE AVAILABLE]

US PAT NO: 5,110,920 [IMAGE AVAILABLE] L4: 47 of 98

ABSTRACT:
HLA typing based on restriction length polymorphism is carried out by: digesting an individual's DNA with a restriction endonuclease that produces a polymorphic digestion pattern with HLA DNA; subjecting the digest to genomic blotting using a labeled DNA hybridization probe that hybridizes to an HLA DNA sequence involved in the polymorphism; and comparing the resulting genomic blotting pattern with a standard. This technique may be adapted to make paternity or transplant or transfusion compatibility determinations or to make disease association correlations to diagnose diseases or predict susceptibility to diseases. Locus specific cDNA hybridization probes, particularly probes for genes of Class II loci, for use in the typing procedure are described.
REL-US-DATA: Division of Ser. No. 678,255, Dec. 5, 1984, which is a continuation-in-part of Ser. No. 456,373, Jan. 7, 1983, Pat. No. 4,582,788, which is a continuation-in-part of Ser. No. 341,902, Jan. 22, 1982, abandoned.

48. 5,081,022, Jan. 14, 1992, Vector for the cloning and expression of .gamma.-interferon, transformed bacteria and process for the preparation of .gamma.-interferon; Paul Sondermeyer, et al., 435/69.51, 252.3, 252.33, 320.1; 536/23.52; 935/6, 38, 45, 47, 73 [IMAGE AVAILABLE]

US PAT NO: 5,081,022 [IMAGE AVAILABLE] L4: 48 of 98

ABSTRACT:
The present invention relates to a vector for the expression of the protein of human .gamma.interferon in bacteria, of the type containing the gene which codes for the protein of human .gamma.interferon and the plasmid elements which provide for the expression of this gene, wherein the 5' end of the sequence coding for the protein is as follows: ##STR1## The bacteria transformed by these vectors enable .gamma.-IFN to be produced in high yield.
REL-US-DATA: Continuation of Ser. No. 768,119, Aug. 7, 1985, abandoned.

49. 5,077,059, Dec. 31, 1991, Process for preparing melanogenic inhibitor, and pigmentation-lightening agent containing the same; Yuyaka Mishima, et al., 424/573, 62 [IMAGE AVAILABLE]

US PAT NO: 5,077,059 [IMAGE AVAILABLE] L4: 49 of 98

ABSTRACT:
The present invention relates to a process for preparing a melanogenic inhibitor and a pigmentation-lightening agent containing the same, more particularly, the present invention relates to a process for preparing a novel melanogenic inhibitor which is obtained by proliferating an established cell line from a warm-blooded animal, homogenizing the proliferated cells and recovering the same from the resultant homogenate, as well as to a pigmentation-lightening agent containing the same.

50. 5,049,659, Sep. 17, 1991, Proteins which induce immunological effector cell activation and chemattraction; Harvey I. Cantor, et al., 530/351; 424/85.1; 530/350, 395 [IMAGE AVAILABLE]

US PAT NO: 5,049,659 [IMAGE AVAILABLE] L4: 50 of 98

ABSTRACT:
The present invention relates to genes and their encoded proteins which induce immunological effector cell activation and chemattraction. The proteins of the invention attract subsets of immunological effector cells and stimulate them to express their specialized effector cell functions. Such proteins, termed Ap-1 proteins, are expressed by lymphoid cells, and bind to effector cells such as macrophages and mast cells. In particular,

the Ap-1 proteins induce macrophage phagocytosis, expression of class II major histocompatibility molecules, cytotoxicity, and migration, and induce hematopoietic progenitor cell differentiation. The Ap-1 molecules can be of value in the therapy or diagnosis of inflammatory or immune disorders, or neoplasia.

51. 5,041,379, Aug. 20, 1991, Heliothis expression systems; Malcolm J. Fraser, et al., 435/235.1, 69.1, 70.1, 172.3, 320.1; 536/23.2, 23.6, 23.72; 935/3, 6, 9, 22, 33, 34, 47, 48, 59, 60, 61, 66, 70 [IMAGE AVAILABLE]

US PAT NO: 5,041,379 [IMAGE AVAILABLE] L4: 51 of 98

ABSTRACT:
The present invention relates to recombinant vector/host systems which can direct the expression of foreign genes under the control of the Heliothis polyhedrin promoter. Using the systems of the present invention, a heterologous gene of interest can be expressed as an unfused peptide or protein, a fusion protein, or as a recombinant occlusion body which comprises crystallized polyhedrin fusion proteins bearing the heterologous gene product on the surface of or within the occlusion body. The recombinant proteins or occlusion bodies of the present invention have uses in vaccine formulations and immunoassays, as biological insecticides, and as expression systems for the production of foreign peptides or proteins.
REL-US-DATA: Continuation-in-part of Ser. No. 26,499, Mar. 16, 1987, abandoned.

52. 5,030,564, Jul. 9, 1991, Monoclonal antibody specific to the lymphokine LK 2 and its method of production; Masakazu Mitsuhashi, et al., 530/388.23; 435/70.21, 172.2; 530/351; 935/93 [IMAGE AVAILABLE]

US PAT NO: 5,030,564 [IMAGE AVAILABLE] L4: 52 of 98

ABSTRACT:
A monoclonal antibody specific to the lymphokine LK 2, and its production is disclosed. The novel lymphokine LK 2 is a glycoprotein with a molecular weight of 20,000.+-.2,000 daltons; isoelectric point pI, 6.2.+-.0.3; electrophoretic mobility Rf, 0.29.+-.0.02; cytotoxic on L 929 cells; and not substantially growth inhibitive on KB cells. The lymphokine significantly inhibits the growth of malignant human tumors in vivo. The monoclonal antibody may be of IgM or IgG class, and neutralizes specifically the cytotoxic activity of the lymphokine. Combined use of LK 2 with chemotherapeutic agents such as alkylating agents, metabolic antagonists, antioncotic antibiotics and plant alkaloids enhances greatly the antioncotic effect of the chemotherapeutics.
REL-US-DATA: Division of Ser. No. 792,158, Oct. 28, 1985.

53. 5,028,534, Jul. 2, 1991, DNA clones of human placental plasminogen activator inhibitor; J. Evan Sadler, et al., 435/69.2, 69.1, 252.3, 320.1, 354; 536/23.2, 24.1; 935/11, 29, 32, 70, 73 [IMAGE AVAILABLE]

US PAT NO: 5,028,534 [IMAGE AVAILABLE] L4: 53 of 98

ABSTRACT:
cDNA clones having a base sequence for human placental plasminogen activator inhibitor (PAI-2) have been developed and characterized and the amino acid sequence of the PAI-2 has been determined. The PAI-2 protein has then been expressed in prokaryotic and eukaryotic cells.

54. 5,019,385, May 28, 1991, Novel lymphopine LK 2 and pharmaceutic compositions containing same; Masakazu Mitsuhashi, et al., 424/85.1; 514/2, 8; 530/351 [IMAGE AVAILABLE]

US PAT NO: 5,019,385 [IMAGE AVAILABLE] L4: 54 of 98

ABSTRACT:
A novel lymphokine, the monoclonal antibody specific to the lymphokine, and their production and uses are disclosed. The lymphokine is a glycoprotein with a molecular weight of 20,000.+-.2,000 daltons; isoelectric point pI, 6.2.+-.0.3; electrophoretic mobility Rf, 0.29.+-.0.02; cytotoxic on L 929 cell; and substantially not growth-inhibitive on KB cell. The lymphokine significantly inhibits the growth of malignant human tumors in vivo. The monoclonal antibody is of IgM or IgG class, and neutralizes specifically the cytotoxic activity of the lymphokine. Combined use of LK 2 with chemotherapeutic such as alkylating agents, metabolic antagonists, antioncotic antibiotics and plant alkaloids enhances greatly the antioncotic effect of the chemotherapeutics.

55. 5,003,048, Mar. 26, 1991, Method for the purification of lymphokine LK 2; Masakazu Mitsuhashi, et al., 530/413; 435/70.3; 530/351 [IMAGE AVAILABLE]

US PAT NO: 5,003,048 [IMAGE AVAILABLE] L4: 55 of 98

ABSTRACT:
A monoclonal antibody specific to the lymphokine LK 2, and its production is disclosed. The novel lymphokine LK 2 is a glycoprotein with a molecular weight of 20,000.+-.2,000 daltons; isoelectric point pI, 6.2.+-.0.3; electrophoretic mobility Rf, 0.29.+-.0.02; cytotoxic on L 929 cells; and substantially not growth-inhibitive on KB cells. The lymphokine significantly inhibits the growth of malignant human tumors in vivo. The monoclonal antibody may be of IgM or IgG class, and neutralizes specifically the cytotoxic activity of the lymphokine. Combined use of LK 2 with chemotherapeutic agents such as alkylating agents, metabolic antagonists, antioncotic antibiotics and plant alkaloids enhances greatly the antioncotic effect of the chemotherapeutics.
REL-US-DATA: Division of Ser. No. 792,158, Oct. 28, 1985.

56. 5,002,878, Mar. 26, 1991, Novel lymphokine, monoclonal antibody specific to the lymphokine, and their production and uses; Masakazu Mitsuhashi, et al., 435/70.4; 530/351 [IMAGE AVAILABLE]

US PAT NO: 5,002,878 [IMAGE AVAILABLE] L4: 56 of 98

ABSTRACT:
A monoclonal antibody specific to the lymphokine, and its production is disclosed. The novel lymphokine LK2 is a glycoprotein with a molecular weight of 20,000.+-.2,000 daltons; isoelectric point pI, 6.2.+-.0.3; electrophoretic mobility Rf, 0.29.+-.0.02; cytotoxic on L 929 cells and substantially not growth-inhibitive on KB cell. The lymphokine significantly inhibits the growth of malignant human tumors in vivo. The monoclonal antibody may be of IgM or IgG class, and neutralizes specifically the cytotoxic activity of the lymphokine. Combined use of LK 2 with chemotherapeutic agents such as alkylating agents, metabolic antagonists, antioncotic antibiotics and plant alkaloids enhances greatly the antioncotic effect of the chemotherapeutics.
REL-US-DATA: Division of Ser. No. 792,158, Oct. 28, 1985.

57. 5,002,875, Mar. 26, 1991, Plasmids containing the gene for DNA polymerase I from Streptococcus pneumoniae; Sanford A. Lacks, et al., 435/69.1, 172.3, 196, 320.1; 536/23.2, 23.7; 935/60 [IMAGE AVAILABLE]

US PAT NO: 5,002,875 [IMAGE AVAILABLE] L4: 57 of 98

ABSTRACT:
A method is disclosed for cloning the gene which encodes a DNA polymerase-exonuclease of Streptococcus pneumoniae. Plasmid pSM22, the vector containing the pneumoccal polA gene, facilitates the expression of 50-fold greater amounts of the PolI enzyme.

58. 4,994,556, Feb. 19, 1991, Novel lymphokine and its production and uses; Masakazu Mitsuhashi, et al., 530/351; 424/85.1, 85.2, 85.4, 85.5, 85.6, 85.7; 435/70.1; 514/2, 8, 21; 530/827, 828, 837 [IMAGE AVAILABLE]

US PAT NO: 4,994,556 [IMAGE AVAILABLE] L4: 58 of 98

ABSTRACT:
A novel lymphokine and its production and uses are disclosed. The lymphokine is a glycoprotein with a molecular weight of 15,000.+-.2,000 daltons; isoelectric point pI, 4.5.+-.0.5; electrophoretic mobility Rf, 0.73.+-.0.05; cytotoxic on L 929 cell; and cytostatic on KB cell with or without human interferon-alpha. The lymphokine significantly inhibits in vivo the growth of malignant human tumors in cooperation with human interferon, therefore is useful in prophylactic and therapeutic treatment of human malignant tumors.

59. 4,966,842, Oct. 30, 1990, Structural genes encoding the various allelic and maturation forms of preprothaumatin recombinant cloning vehicles, comprising said structural genes and expression thereof in transformed microbial host cells; Cornelis T. Verrips, et al., 435/69.1, 71.1, 71.2, 172.1, 172.3, 243, 252.3, 320.1; 536/23.6, 24.2; 935/11 [IMAGE AVAILABLE]

US PAT NO: 4,966,842 [IMAGE AVAILABLE] L4: 59 of 98

ABSTRACT:

The invention relates to structural genes consisting of DNA sequences encoding non-processed and partly processed thaumatin, to the various allelic forms of said non-processed thaumatin and to recombinant DNA's and plasmids comprising said structural genes coding for the various allelic forms of preprothaumatin, and naturally and/or artificially modified preprothaumatin in various stages of its natural processing, and to the use of said recombinant plasmids to transform microorganisms, particularly bacteria in which said genes are expressed.
REL-US-DATA: Continuation of Ser. No. 732,818, May 10, 1985, Pat. No. 4,771,000, which is a continuation of Ser. No. 329,830, Dec. 11, 1981, abandoned.

60. 4,923,807, May 8, 1990, Arg-Serpin human plasminogen activator inhibitor designated PAI-2; Andrew C. Webb, et al., 435/69.2, 69.8, 172.3, 252.3, 252.33, 254.2, 320.1, 325; 536/23.2, 24.1; 935/11, 69, 70, 72, 73 [IMAGE AVAILABLE]

US PAT NO: 4,923,807 [IMAGE AVAILABLE] L4: 60 of 98

ABSTRACT:
The invention is directed to an Arg-Serpin human plasminogen activator inhibitor designated PAI-2. This protein is prepared via recombinant DNA means. The invention also includes other serpins which can be made by amino acid substitutions or deletions in conserved regions of PAI-1 and PAI-2, as shown in FIG. 4. The proteins of the invention can be used to inhibit, or at least modulate, human plasminogen activator activity in a variety of physiological conditions, e.g., fibrinolysis, tumor metastasis, and tumor growth.
REL-US-DATA: Continuation-in-part of Ser. No. 4,319, Jan. 8, 1987, Pat. No. 4,766,069, which is a continuation of Ser. No. 611,669, May 18, 1984, abandoned.

61. 4,891,316, Jan. 2, 1990, DNA sequences encoding the various allelic forms of mature thaumatin, and cloning vehicles, etc.; Cornelis T. Verrips, et al., 435/69.1, 91.41, 172.1, 172.3, 252.33, 320.1; 536/23.6; 935/11, 29, 73 [IMAGE AVAILABLE]

US PAT NO: 4,891,316 [IMAGE AVAILABLE] L4: 61 of 98

ABSTRACT:
The invention relates to DNA sequences encoding the various allelic forms of mature thaumatin, and cloning vehicles comprising said DNA sequences and their use in transforming microorganisms.
REL-US-DATA: Continuation of Ser. No. 329,829, Dec. 11, 1981, abandoned.

62. 4,889,799, Dec. 26, 1989, Reagent kit producing shortened target DNA segments usable in sequencing large DNA segments; Steven Henikoff, et al., 435/6, 21, 172.3, 196, 320.1; 935/29, 77 [IMAGE AVAILABLE]

US PAT NO: 4,889,799 [IMAGE AVAILABLE] L4: 62 of 98

ABSTRACT:
A process is provided for producing an ordered series of cloned, circular, DNA molecules containing shortened target DNA segments derived from a long target DNA segment, which are suitable for use in determining the nucleotide sequence of the long target DNA segment, or for targeting specific regions within the target DNA segment. The process includes producing, by molecular cloning, a plurality of double-stranded recombinant DNA molecules each containing: (i) vector DNA; (ii) a sequencing primer binding site; and, (iii) a DNA region having unique endonuclease sites and a long target DNA segment. The sequencing primer binding site is spaced from the long target DNA segment by at least a portion of said DNA region having the unique endonuclease sites. The plurality of double-stranded circular recombinant DNA molecules are cleared using two restriction endonucleases. The cleavage occurs in the portion of the DNA having unique endonuclease sites lying between the long target DNA segment and the sequencing primer binding site. The cleavage and, if necessary, subsequent processing steps, produces double-stranded linear DNA molecules having an end containing a long target DNA segment that is susceptible to exonuclease digestion and a sequencing primer binding site end that is not susceptible to exonuclease digestion. Next, the target DNA segment end is subjected to exonuclease digestion. At timed intervals, portions of the exonuclease digested linear double-stranded DNA molecules are removed. Since part of the target DNA segment has been deleted by the exonuclease, the removed linear double-stranded DNA molecules include shortened target DNA segments. Next, the removed linear double-stranded DNA molecules are blunted and then recircularized to reform circular recombinant DNA molecules. The reformed recombinant DNA molecules are cloned to produce a plurality of circular DNA molecules containing shortened target DNA segments that differ in length by the amount of target DNA that was removed by the exonuclease. The reformed circular DNA molecules are suitable for use in DNA sequencing other molecular manipulations of genetic material.
REL-US-DATA: Division of Ser. No. 581,311, Feb. 17, 1984.

63. 4,882,278, Nov. 21, 1989, Non-toxinogenic vibrio cholerae mutants; John J. Mekalanos, 435/172.3, 252.1, 252.3, 909; 935/29, 56, 65, 72 [IMAGE AVAILABLE]

US PAT NO: 4,882,278 [IMAGE AVAILABLE] L4: 63 of 98

ABSTRACT:
A genetically stable nontoxinogenic form of the Ogawa 395 strain of Vibrio cholerae which has a deletion mutation in both copies of the A.sub.1 -peptide-encoding gene, resulting in the loss of a gene sequence required for expression of a toxic A.sub.1 peptide is disclosed, as well as plasmids and methods for making the strain. The strain is useful as a live or dead oral vaccine.

64. 4,876,202, Oct. 24, 1989, Chimeric plasmids; Hiromi Ishiwa, et al., 435/320.1, 170, 172.3, 252.31, 252.33; 536/23.1, 24.1, 24.2; 935/29, 56 [IMAGE AVAILABLE]

US PAT NO: 4,876,202 [IMAGE AVAILABLE] L4: 64 of 98

ABSTRACT:
A variety of chimeric plasmids each of which comprises (a) a tetracycline resistance gene (Tc) deriving from pAM.alpha.1, one of the plasmids retained by Streptococcus faecalis, (b) an ampicillin resistance gene (Amp) deriving from pACYC177, one of the vectors applicable to Escherichia coli and (c) either or both of origins, an origin (OripAM.alpha.1) deriving from the plasmid pAM.alpha.1 and an origin (Ori177) deriving from the vector pACYC177, the tetracycline resistance gene existing on each of which has the unique cleavage site for the restriction enzyme BalI on the entire DNA of the same plasmid and the ampicillin resistance gene existing on each of which has the unique cleavage sites for respective restriction enzymes BglI and PstI on the entire DNA on the same plasmid.
There is also provided a chimeric plasmid vector containing (a) a tetracycline resistance gene region (Tc) derived from the plasmid pAM.alpha.1 of Streptococcus faecalis DS5 (ATCC14508), (b) an ampicillin resistance gene region (Amp) derived from the vector pACYC177 of E. coli, (c) a first DNA replication origin (OripAM.alpha.1) derived from the plasmid pAM.alpha.1, (d) a second DNA replication origin (Ori177) derived from the vector pACYC177, and (e) a polylinker region having recognition and cleavage sites for the restriction enzymes EcoRI at one terminal and HindIII at the other terminal of the polylinker DNA sequence.

This is a Continuation-in-part of Ser. No. 574,180, filed Jan. 24, 1984 abandoned, and Ser. No. 737,038, filed May 22, 1985, abandoned.
REL-US-DATA: Continuation-in-part of Ser. No. 574,180, Jan. 24, 1984, abandoned, and a continuation-in-part of Ser. No. 737,038, May 22, 1985, abandoned.

65. 4,870,023, Sep. 26, 1989, Recombinant baculovirus occlusion bodies in vaccines and biological insecticides; Malcolm J. Fraser, et al., 435/235.1, 69.3, 69.7, 172.3, 243, 320.1; 530/350, 820, 826; 536/23.1, 23.4; 930/10, 220; 935/32, 57, 70 [IMAGE AVAILABLE]

US PAT NO: 4,870,023 [IMAGE AVAILABLE] L4: 65 of 98

ABSTRACT:
The present invention is directed to recombinant baculoviruses which encode fusion polyhedrin proteins capable of forming occlusion bodies containing foreign peptides. The recombinant baculoviruses of the invention are formed by insertion into or replacement of regions of the polyhedrin gene that are not essential for occlusion body formation, with foreign DNA fragments by recombinant DNA techniques. The recombinant occlusion bodies produced in accordance with the present invention have uses in vaccine formulations, immunoassays, immobilized enzyme reactions, as biological insecticides, and as expression vectors.
REL-US-DATA: Continuation-in-part of Ser. No. 26,498, Mar. 16, 1987, abandoned, which is a continuation-in-part of Ser. No. 26,499, Mar. 16, 1987.

66. 4,843,003, Jun. 27, 1989, Process for producing shortened target DNA

fragments usable in sequencing large DNA segments; Steven Henikoff, et al., 435/91.41, 6, 91.42, 172.3; 536/23.1, 24.2, 24.33; 935/1, 22, 77 [IMAGE AVAILABLE]

US PAT NO: 4,843,003 [IMAGE AVAILABLE] L4: 66 of 98

ABSTRACT:
A process is provided for producing an ordered series of cloned, circular, DNA molecules containing shortened target DNA segments derived from a long target DNA segment, which are suitable for use in determining the nucleotide sequence of the long target DNA segment, or for targeting specific regions within the target DNA segment. The process includes producing, by molecular cloning, a plurality of double-stranded recombinant DNA molecules each containing: (i) vector DNA; (ii) a sequencing primer binding site; and, (iii) a DNA region having unique endonuclease sites and a long target DNA segment. The sequencing primer binding site is spaced from the long target DNA segment by at least a portion of said DNA region having the unique endonuclease sites. The plurality of double-stranded circular recombinant DNA molecules are cleared using two restriction endonucleases. The cleavage occurs in the portion of the DNA having unique endonuclease sites lying between the long target DNA segment and the sequencing primer binding site. The cleavage and, if necessary, subsequent processing steps, produces double-stranded linear DNA molecules having an end containing a long target DNa segment that is susceptible to exonuclease digestion and a sequencing primer binding site end that is not susceptible to exonuclease digestio

This invention was made with government support under Contract Nos. GM29009 and AM31232 awarded by the National Institutes of Health (NIH). The government has certain rights in this invention.

67. 4,822,731, Apr. 18, 1989, Process for labeling single-stranded nucleic acids and hybridizaiton probes; Robert M. Watson, et al., 435/6; 436/501, 827; 536/24.3, 25.32, 25.4, 25.5, 25.6; 930/10; 935/78 [IMAGE AVAILABLE]

US PAT NO: 4,822,731 [IMAGE AVAILABLE] L4: 67 of 98

ABSTRACT:
Nucleic acids may be labeled by complexing the alkylating moiety of a labeling reagent into a single-stranded nucleic acid to form a complex and activating the complex to cause covalent bonding between the reagent and the nucleic acid. Preferably, the labeled nucleic acid is a single-stranded hybridization probe for detecting nucleic acid sequences capable of hybridizing with a hybridizing region of the nucleic acid. Also preferably the label moiety is non-radioactive. The labeling reagent is of the formula:

[A--[B--L
where A is an alkylating moiety, B is a divalent organic moiety of the formula: ##STR1## where Y is O, NH or N--CHO, x is a number from 1 to 4, y is a number from 2 to 4, and L is a monovalent label moiety, wherein B is exclusive of any portion of the alkylating and label moieties. Preferably A is a 4-methylene-substituted psoralen moiety, and most preferably A is a 4'-methylene-substituted-4,5',8-trimethylpsoralen moiety and L is biotin.

68. 4,803,297, Feb. 7, 1989, Carbamic acid ester useful for preparing a nucleic acid probe; Corey H. Levenson, et al., 560/159 [IMAGE AVAILABLE]

US PAT NO: 4,803,297 [IMAGE AVAILABLE] L4: 68 of 98

ABSTRACT:
Nucleic acids may be labeled by intercalating the alkylating intercalation moiety of a labeling reagent into a partially double-stranded nucleic acid to form a complex and activating the complex to cause covalent bonding between the reagent and the nucleic acid. Preferably, the labeled nucleic acid is hybridization probe for detecting nucleic acid sequences capable of hybridizing with a hybridizing region of the nucleic acid. Also preferably the label moiety is non-radioactive. The labeling reagent is of the formula:

[A--[B--L
where A is an alkylating intercalation moiety, B is a divalent organic moiety of the formula: ##STR1## where Y is O, NH or N--CHO, x is a number from 1 to 4, y is a number from 2 to 4, and L is a monovalent label moiety, wherein B is exclusive of any portion of the intercalation and label moieties.
Preferably A is a 4-methylene-substituted psoralen moiety, and most preferably A is a 4'-methylene-substituted-4,5',8-trimethylpsoralen moiety and L is biotin.
REL-US-DATA: Division of Ser. No. 888,252, Jul. 21, 1986, Pat. No. 4,705,886, which is a division of Ser. No. 791,332, Oct. 25, 1985, Pat. No. 4,617,261, which is a continuation-in-part of Ser. No. 683,263, Dec. 18, 1984, Pat. No. 4,582,789, which is a continuation-in-part of Ser. No. 591,811, May 21, 1984, abandoned.

69. 4,780,530, Oct. 25, 1988, Novel interferon alphas; Hiroshi Teraoka, et al., 530/351; 424/85.7; 435/69.51, 811; 930/142 [IMAGE AVAILABLE]

US PAT NO: 4,780,530 [IMAGE AVAILABLE] L4: 69 of 98

ABSTRACT:
Novel IFN.alpha.S51B10 and IFN.alpha.S17H9 of this invention are prepared from BALL-1 cell induced with Sendai virus according to the well known recombinant DNA technique. Further, this invention relates to a DNA encoding interferon .alpha.S51B10 or .alpha.S17H9, a recombinant plasmid enabling an expression of interferon .alpha.S51B10 or .alpha.S17H9 in a host microorganism and a microorganism transformed by the recombinant plasmid. These two IFN.alpha.s have antiviral and anti-tumor activity as other subtypes of IFN.alpha. and are useful as medicines for human and animal.

70. 4,771,000, Sep. 13, 1988, Structural genes encoding the various allelic and maturation forms of preprothaumatin, recombinant cloning vehicles comprising said structural genes and expression thereof in transformed microbial host cells; Cornelis T. Verrips, et al., 435/69.1, 91.41, 91.42, 172.1, 172.3, 252.33, 320.1; 536/23.1, 23.4, 23.6, 24.1, 24.2; 930/230; 935/11, 29, 38, 60, 73 [IMAGE AVAILABLE]

US PAT NO: 4,771,000 [IMAGE AVAILABLE] L4: 70 of 98

ABSTRACT:
The invention relates to structural genes comprising encoding non-processed and partly processed thaumatin, to the various allelic forms of said non-processed thaumatin and to recombinant DNA's and plasmids comprising said structural genes coding for the various allelic forms of preprothaumatin, and naturally and/or artifically modified preprothaumatin in various stages of its natural processing, and to the use of said recombinant plasmids to transform microorganisms, particularly bacteria in which said genes are expressed.
REL-US-DATA: Continuation of Ser. No. 329,830, Dec. 11, 1981, abandoned.

71. 4,758,549, Jul. 19, 1988, Lymphokine, monoclonal antibody specific to the lymphokine and their production and uses; Masakazu Mitsuhashi, et al., 514/8; 435/70.4, 172.2; 530/351 [IMAGE AVAILABLE]

US PAT NO: 4,758,549 [IMAGE AVAILABLE] L4: 71 of 98

ABSTRACT:
Disclosed is an invention relating to a novel lymphokine and to the production and uses thereof. The invention also relates to a monoclonal antibody specific to the lymphokine and its production. The novel lymphokine is a glycoprotein having a molecular weight of 20,000.+-.2,000 daltons; isoelectric point pI, 5.6.+-.0.2; electrophoretic mobility Rf, 0.29.+-.0.02; and cytotoxic on a mouse cell line L 929. The lymphokine inhibits significantly the growth of malignant human tumors in vivo. The monoclonal antibody is IgM or IgG class, and neutralizes specifically the cytotoxic activity of the lymphokine.

72. 4,754,065, Jun. 28, 1988, Precursor to nucleic acid probe; Corey H. Levenson, et al., 562/564 [IMAGE AVAILABLE]

US PAT NO: 4,754,065 [IMAGE AVAILABLE] L4: 72 of 98

ABSTRACT:
Nucleic acids may be labeled by intercalating the alkylating intercalation moiety of a labeling reagent into a partially double-stranded nucleic acid to form a complex and activating the complex to cause covalent bonding between the reagent and the nucleic acid. Preferably, the labeled nucleic acid is a hybridization probe for detecting nucleic acid sequences capable of hybridizing with a hybridizing region of the nucleic acid. Also preferably the label moiety is non-radioactive. The labeling reagent is of the formula:

[A] [B] L
where A is an alkylating intercalation moiety, B is a divalent organic moiety of the formula: ##STR1## where Y is O, NH or N--CHO, x is a number from 1 to 4, y is a number from 2 to 4, and L is a monovalent label moiety, wherein B is exclusive of any portion of the intercalation and label moieties.
Preferably A is a 4-methylene-substituted psoralen moiety, and most preferably A is a 4'-methylene-substituted-4,5',8-trimethylpsoralen moiety and L is biotin.
REL-US-DATA: Division of Ser. No. 888,252, Jul. 21, 1986, Pat. No. 4,705,886, which is a continuation-in-part of Ser. No. 791,332, Oct. 25, 1985, Pat. No. 4,617,261, which is a continuation-in-part of Ser. No. 683,263, Dec. 18, 1984, Pat. No. 4,582,789, which is a continuation-in-part of Ser. No. 591,811, Mar. 21, 1984, abandoned.

73. 4,751,313, Jun. 14, 1988, Precursor to nucleic acid probe; Corey H. Levenson, et al., 548/304.1 [IMAGE AVAILABLE]

US PAT NO: 4,751,313 [IMAGE AVAILABLE] L4: 73 of 98

ABSTRACT:
Nucleic acids may be labeled by intercalating the alkylating intercalation moiety of a labeling reagent into a partially double-stranded nucleic acid to form a complex and activating the complex to cause covalent bonding between the reagent and the nucleic acid. Preferably, the labeled nucleic acid is a hybridization probe for detecting nucleic acid sequences capable of hybridizing with a hybridizing region of the nucleic acid. Also preferably the label moiety is non-radioactive. The labeling reagent is of the formula:

[A][B]L
where A is an alkylating intercalation moiety, B is a divalent organic moiety of the formula: ##STR1## where Y is O, NH or N--CHO, x is a number from 1 to 4, y is a number from 2 to 4, and L is a monovalent label moiety, wherein B is exclusive of any portion of the intercalation and label moieties.
Preferably A is a 4-methylene-substituted psoralen moiety, and most preferably A is a 4'-methylene-substituted-4,5',8-trimethylpsoralen moeity and L is biotin.
REL-US-DATA: Division of Ser. No. 888,252, Jul. 21, 1986, Pat. No. 4,705,886, and Ser. No. 791,332, Oct. 25, 1985, Pat. No. 4,617,261, which is a continuation-in-part of Ser. No. 683,263, Dec. 18, 1984, Pat. No. 4,582,789, which is a continuation-in-part of Ser. No. 591,811, Mar. 21, 1984, abandoned.

74. 4,725,549, Feb. 16, 1988, Human and rat prolactin and preprolactin cloned genes; Nancy E. Cooke, et al., 435/252.33, 69.4, 91.41, 91.51, 172.1, 172.3, 243, 320.1, 849; 536/23.51, 24.1; 930/10, 310; 935/13, 29, 73 [IMAGE AVAILABLE]

US PAT NO: 4,725,549 [IMAGE AVAILABLE] L4: 74 of 98

ABSTRACT:
A DNA which comprises a deoxynucleotide sequence coding for prolactin, particularly human prolactin, is described. A transfer vector and an expression vector containing this DNA and microorganisms transformed by these vectors are also described. A method for preparing a reverse transcript (cDNA) from a messenger RNA is also disclosed herein.
The invention described herein was made in the course of, or under, a grant from the National Institutes of Health.
REL-US-DATA: Continuation of Ser. No. 189,160, Sep. 22, 1980, abandoned.

75. 4,708,929, Nov. 24, 1987, Methods for protein binding enzyme complementation assays; Daniel R. Henderson, 435/7.5, 7.6, 7.8, 188, 975; 436/501, 537, 544; 530/300, 389.2, 389.8; 930/10, 240 [IMAGE AVAILABLE]

US PAT NO: 4,708,929 [IMAGE AVAILABLE] L4: 75 of 98

ABSTRACT:
This invention relates to improved methods and novel compositions for enzyme complementation assays for qualitative and quantitative determination of a suspected analyte in a sample. The use of enzyme-acceptor and enzyme-donor polypeptides prepared by recombinant DNA techniques or chemical polypeptide synthesis techniques which are capable of interacting to form an active enzyme complex having catalytic activity characteristic of .beta.-galactosidase is described. Both homogeneous and heterogeneous assays utilizing these polypeptides are described.
REL-US-DATA: Continuation-in-part of Ser. No. 666,080, Oct. 29, 1984, which is a continuation-in-part of Ser. No. 585,356, Mar. 1, 1984, abandoned.

76. 4,705,886, Nov. 10, 1987, Precursor to nucleic acid probe; Corey H. Levenson, et al., 560/159; 562/564; 930/10, 220 [IMAGE AVAILABLE]

US PAT NO: 4,705,886 [IMAGE AVAILABLE] L4: 76 of 98

ABSTRACT:
Nucleic acids may be labeled by intercalating the alkylating intercalation moiety of a labeling reagent into a partially double-stranded nucleic acid to form a complex and activating the complex to cause covalent bonding between the reagent and the nucleic acid. Preferably, the labeled nucleic acid is a hybridization probe for detecting nucleic acid sequences capable of hybridizing with a hybridizing region of the nucleic acid. Also preferably the label moiety is non-radioactive. The labeling reagent is of the formula:

[A--[B--L
where A is an alkylating intercalation moiety, B is a divalent organic moiety of the formula: ##STR1## where Y is O, NH or N--CHO, x is a number from 1 to 4, y is a number from 2 to 4, and L is a monovalent label moiety, wherein B is exclusive of any portion of the intercalation and label moieties.
Preferably A is a 4-methylene-substituted psoralen moiety, and most preferably A is a 4'-methylene-substituted-4,5', 8-trimethylpsoralen moiety and L is biotin.

This patent application is a divisional application of copending U.S. Ser. No. 791,332 filed Oct. 25, 1985, now U.S. Pat. No. 4,617,261, which is a continuation-in-part application (CIP) of copending U.S. Ser. No. 683,263 filed Dec. 18, 1984, now U.S. Pat. No. 4,582,789 which is a CIP of copending U.S. Ser. No. 591,811 filed Mar. 21, 1984, now abandoned. This patent application is also related to copending U.S. application Ser. No. 791,323 filed Oct. 25, 1985.
REL-US-DATA: Division of Ser. No. 791,332, Oct. 25, 1985, Pat. No. 4,617,261, which is a continuation-in-part of Ser. No. 683,263, Dec. 18, 1984, Pat. No. 4,582,789, which is a continuation-in-part of Ser. No. 591,811, Mar. 21, 1984, abandoned.

77. 4,703,009, Oct. 27, 1987, RDNA cloning vector pVE1, deletion and hybrid mutants and recombinant derivatives thereof products and processes; Tanya MacNeil, et al., 435/91.41, 69.1, 91.42, 172.3, 243, 252.35, 320.1, 886, 906; 536/23.1; 935/29, 72, 73, 74, 75 [IMAGE AVAILABLE]

US PAT NO: 4,703,009 [IMAGE AVAILABLE] L4: 77 of 98

ABSTRACT:
Novel plasmid pVE1, deletion mutants thereof, recombinant derivatives thereof, which is the same as the genome or nucleic acid of such plasmids and derivatives of such genome, which are useful as recombinant DNA cloning vectors into host organisms, such as bacteria, for example, Streptomyces avermitilis; portions of such plasmid genome are additionally useful as adjuncts in recombinant DNA cloning procedures, for examples: 1. to permit the maintenance of cloned DNA in the host, either in an integrated state or as an autonomous element; 2. to serve as promoters for increasing expression of endogenous or foreign genes wherein said promoters are ligated to such genes or otherwise serve as promoters; and 3. to serve as regulatory elements for achieving control over endogenous and foreign gene expression; as cloning vectors, pVE1 its deletion mutants, and other derivatives serve for the amplification and transfer of DNA sequences (genes) coding for useful functions, such modified cloning vectors are introduced into the recipient organism by conjugation or transformation; wherein the hybrid DNA functions in an integrated mode and/or in a plasmid mode.
REL-US-DATA: Continuation of Ser. No. 473,181, Mar. 8, 1983, abandoned.

78. 4,675,297, Jun. 23, 1987, Genes encoding bovine prolactin; John D. Baxter, et al., 435/252.33, 69.4, 91.41, 172.3, 243, 320.1; 536/23.51, 23.7; 930/10; 935/13, 29, 72, 73 [IMAGE AVAILABLE]

US PAT NO: 4,675,297 [IMAGE AVAILABLE] L4: 78 of 98

ABSTRACT:
A DNA sequence encoding bovine prolactin and optionally including condons for the preceding 10 amino acids is used to construct expression systems to obtain recombinant production of these proteins.
REL-US-DATA: Continuation of Ser. No. 236,905, Feb. 23, 1981, abandoned.

79. 4,675,283, Jun. 23, 1987, Detection and isolation of homologous, repeated and amplified nucleic acid sequences; Igor Roninson, 435/6; 204/461, 462; 435/18, 91.41, 803; 436/501; 536/24.3; 935/76, 77, 78 [IMAGE AVAILABLE]

US PAT NO: 4,675,283 [IMAGE AVAILABLE] L4: 79 of 98

ABSTRACT:
A novel method for detecting and isolating DNA sequences commonly held by different DNA preparations or repeated or amplified within a complex genome has been provided. The DNA preparations of interest are digested with the same restriction enzyme and a portion of at least one preparation is labeled with .sup.32 P. The labeled and unlabeled DNA preparations are combined and electrophoresed in an agarose gel. Following electrophoresis, the DNA is denatured in situ and allowed to reanneal within the gel so that homologous DNA sequences present within restriction fragments of the same size can reanneal. After reannealing, unhybridized single-stranded DNA is digested in situ followed by detection of the reannealed DNA by autoradiography. When labeled and unlabeled DNAs are derived from different DNA preparations, only the restriction fragments commonly held by these two preparations are detected. When a restriction digest of total eukaryotic DNA is reassociated in the gel by this procedure, repeated restriction fragments are selectively detected. This approach permits detection of selectively amplified DNA sequences and identification of the DNA sequences that have been commonly amplified in different cell populations. Localized of homologous, repeated or amplified DNA fragments of interest within the gel permits size-purification of such fragments.

80. 4,668,629, May 26, 1987, Human hybridomas, precursors and products; Henry S. Kaplan, et al., 435/172.2; 424/142.1; 530/388.15, 388.9; 935/93, 99, 107 [IMAGE AVAILABLE]

US PAT NO: 4,668,629 [IMAGE AVAILABLE] L4: 80 of 98

ABSTRACT:
Human monoclonal antibody compositions, human-human monoclonal hybridoma
cells, human myeloma cells, human antibody genes and their uses. Human myeloma cells are developed for fusing with immunized lymphoid cells to provide stable human-human hybridoma strains producing complete monoclonal antibodies for a predefined antigen. From a myeloma cell line, rapidly growing 8-azaguanine resistant HAT sensitive cells are selected. The selected myeloma cells are crossed with immunized lymphoid cells and the resulting cell mixture grown under controlled selective conditions. After expansion of the desired hybridoma cells, the monoclonal antibodies may be harvested. The hybridomas serve as a source for messenger RNA for light and heavy chains which may be used for production of light and heavy chain immunoglobulin proteins through hybrid DNA techniques.
REL-US-DATA: Continuation of Ser. No. 170,255, Jul. 18, 1980, abandoned.

81. 4,621,053, Nov. 4, 1986, Process for the production of human peptide hormones; Kaname Sugimoto, 435/70.2, 172.2, 948; 530/399; 935/106, 109 [IMAGE AVAILABLE]

US PAT NO: 4,621,053 [IMAGE AVAILABLE] L4: 81 of 98

ABSTRACT:
Human peptide hormones, such as insulin, growth hormone, prolactin, adrenocorticotropic hormone, placental lactogen, calcitonin, parathyroid hormone and thyroid stimulating hormone, are produced by implanting a human.times.human hybridoma lymphoblastoid cell line capable of producing the human peptide hormone in a non-human warm-blooded animal. After a period of time, the resultant tumor is extracted and disaggregated and then cultured in vitro under conditions appropriate to accumulate the human peptide hormone. The human.times.human hybridoma lymphoblastoid cell line is preferably formed by fusing parent human cells inherently capable of producing the human peptide hormone with a human lymphoblastoid line, preferably of leukemic origin. This process permits a substantial increase in the amount of human peptide hormone which can be produced.
REL-US-DATA: Continuation-in-part of Ser. No. 281,941, Jul. 10, 1981, abandoned, Ser. No. 281,942, Jul. 10, 1981, abandoned, Ser. No. 290,864, Aug. 7, 1981, abandoned, Ser. No. 322,184, Nov. 17, 1981, abandoned, Ser. No. 325,033, Nov. 25, 1981, abandoned, Ser. No. 329,116, Dec. 9, 1981, abandoned, Ser. No. 329,117, Dec. 9, 1981, abandoned, and Ser. No. 329,120, Dec. 9, 1981, abandoned.

82. 4,621,052, Nov. 4, 1986, Process for the production of human epidermal growth factor; Kaname Sugimoto, 435/70.2, 70.4, 172.2, 948; 530/399; 935/106, 109 [IMAGE AVAILABLE]

US PAT NO: 4,621,052 [IMAGE AVAILABLE] L4: 82 of 98

ABSTRACT:
The present invention relates to a process for the production of human epidermal growth factor (hEGF). More precisely, the present invention relates to a process for the mass production of hEGF, comprising in vivo or in vitro multiplication of human cells capable of producing hEGF, and in vitro cultivation of the multiplied human cells to produce hEGF. The hEGF production according to the present invention is much higher than that attained by conventional processes; thus, hEGF can be obtained in a sufficient amount for use in the prevention and treatment of human diseases.
REL-US-DATA: Continuation-in-part of Ser. No. 322,185, Nov. 17, 1981, abandoned.

83. 4,621,051, Nov. 4, 1986, Process for the production of human multiplication-stimulating activity; Kaname Sugimoto, 435/70.3, 172.2, 373, 378, 948; 530/399; 935/106, 109 [IMAGE AVAILABLE]

US PAT NO: 4,621,051 [IMAGE AVAILABLE] L4: 83 of 98

ABSTRACT:
The present invention relates to a process for the production of human Multiplication-Stimulating Activity (hMSA).
More precisely, the invention relates to a process for the mass production of low-cost hMSA, comprising in vivo multiplication of human cells capable of producing said substance, and subsequent in vitro production of hMSA with the multiplied human cells.
hMSA production according to the present invention is much higher, about 2-50-fold higher in terms of hMSA production per cell, than that attained by conventional processes: thus, hMSA can be used in a sufficient amount in the prevention and treatment of human diseases.
REL-US-DATA: Continuation-in-part of Ser. No. 329,119, Dec. 9, 1981, abandoned.

84. 4,621,050, Nov. 4, 1986, Process for the production of human colony-stimulating factor; Kaname Sugimoto, 435/70.2, 172.2, 948; 530/399; 935/106, 109 [IMAGE AVAILABLE]

US PAT NO: 4,621,050 [IMAGE AVAILABLE] L4: 84 of 98

ABSTRACT:
A process for the mass production of hCSF, comprises cell fusion of human lymphoblastoid cells with any human cells capable of producing said substance, in vivo multiplication of the resultant hybridoma cells, using a non-human warm-blooded animal, and in vivo cultivation of the multiplied hybridoma cells to produce hCSF. The hCSF production according to the present process is much higher than that attained by conventional processes; thus, hCSF can be used in a sufficient amount in the prevention and treatment of human diseases.
REL-US-DATA: Continuation-in-part of Ser. No. 329,118, Dec. 9, 1981, abandoned.

85. 4,617,261, Oct. 14, 1986, Process for labeling nucleic acids and hybridization probes; Edward L. Sheldon, III, et al., 435/6, 7.24, 7.5, 7.9; 436/94, 501; 536/24.3, 25.32, 25.4, 28.5, 28.54; 548/303.1; 930/220; 935/78 [IMAGE AVAILABLE]

US PAT NO: 4,617,261 [IMAGE AVAILABLE] L4: 85 of 98

ABSTRACT:
Nucleic acids may be labeled by intercalating the alkylating intercalation moiety of a labeling reagent into a partially double-stranded nucleic acid to form a complex and activating the complex to cause covalent bonding between the reagent and the nucleic acid.

Preferably, the labeled nucleic acid is a hybridization probe for detecting nucleic acid sequences capable of hybridizing with a hybridizing region of the nucleic acid. Also preferably the label moiety is non-radioactive. The labeling reagent is of the formula:

[A--[B--L

where A is an alkylating intercalation moiety, B is a divalent organic moiety of the formula: ##STR1## where Y is O, NH or N--CHO, x is a number from 1 to 4, y is a number from 2 to 4, and L is a monovalent label moiety, wherein B is exclusive of any portion of the intercalation and label moieties.

Preferably A is a 4-methylene-substituted psoralen moiety, and most preferably A is a 4'-methylene-substituted-4,5',8-trimethylpsoralen moeity and L is biotin.

REL-US-DATA: Continuation-in-part of Ser. No. 683,263, Dec. 18, 1984, which is a continuation-in-part of Ser. No. 591,811, Mar. 21, 1984.

86. 4,582,789, Apr. 15, 1986, Process for labeling nucleic acids using psoralen derivatives; Edward L. Sheldon, III, et al., 435/6, 7.5, 7.9; 436/501; 930/10; 935/77, 78 [IMAGE AVAILABLE]

US PAT NO: 4,582,789 [IMAGE AVAILABLE] L4: 86 of 98

ABSTRACT:

A labeling reagent of the formula:

[A][B]L

is prepared where A is an alkylating intercalation moiety, B is a divalent organic spacer arm moiety with a straight chain of at least two carbon atoms, and L is a monovalent label moiety capable of producing a detectable signal, e.g., a signal detectable by spectroscopic, photochemical, chemical, immunochemical or biochemical means. Preferably A is a 4'-methylene-substituted psoralen moiety, and most preferably A is a 4'-methylene-substituted 4,5',8-trimethylpsoralen moiety.

This reagent may be used to label nucleic acids, preferably DNA, by intercalating the alkylating intercalation moiety of the reagent into an at least partially double-stranded nucleic acid to form a complex and activating the complex to cause covalent bonding between the reagent and the nucleic acid. Preferably, the labeled nucleic acid is a hybridization probe for detecting nucleic acid sequences capable of hybridizing with a hybridizing region of the nucleic acid. Also preferably the label moiety is non-radioactive.

This reagent may also be used in chromosome banding to label specific regions of chromosomes and thereby differentiate them.

REL-US-DATA: Continuation-in-part of Ser. No. 591,811, Mar. 21, 1984, abandoned.

87. 4,582,788, Apr. 15, 1986, HLA typing method and cDNA probes used therein; Henry A. Erlich, 435/6, 172.3; 436/504 [IMAGE AVAILABLE]

US PAT NO: 4,582,788 [IMAGE AVAILABLE] L4: 87 of 98

ABSTRACT:

HLA typing based on restriction length polymorphism is carried out by: digesting an individual's HLA DNA with a restriction endonuclease that produces a polymorphic digestion pattern with HLA DNA; subjecting the digest to genomic blotting using a labeled cDNA hybridization probe that is complementary to an HLA DNA sequence involved in the polymorphism; and

comparing the resulting genomic blotting pattern with a standard. This technique may be adapted to make paternity or transplant or transfusion compatibility determinations or to make disease association correlations to diagnose diseases or predict susceptibility to diseases. Locus specific cDNA hybridization probes, particularly probes for genes of Class II loci (D and DR loci), for use in the typing procedure are described.

REL-US-DATA: Continuation-in-part of Ser. No. 341,902, Jan. 22, 1982, abandoned.

88. 4,537,852, Aug. 27, 1985, Process for the production of human urokinase; Kaname Sugimoto, 435/215; 424/94.63; 435/172.2, 379, 381, 948; 935/34, 99, 109 [IMAGE AVAILABLE]

US PAT NO: 4,537,852 [IMAGE AVAILABLE] L4: 88 of 98

ABSTRACT:

The present invention relates to a process for the production of human urokinase. More precisely, the present invention relates to a process for the mass production of human urokinase, comprising in vivo multiplication of human cells capable of producing human urokinase, using the nutrient body fluid of a non-human warm-blooded animal, and exposure of the multiplied human cells to an urokinase inducer. The human urokinase present production according to the invention is much higher than that attained by conventional methods; thus, human urokinase can be used in sufficient amount in the prevention and treatment of human diseases.

89. 4,498,485, Feb. 12, 1985, Interferon and interferon inducers combined with tobacco products; William A. Carter, 131/331, 310, 334, 335, 343, 352 [IMAGE AVAILABLE]

US PAT NO: 4,498,485 [IMAGE AVAILABLE] L4: 89 of 98

ABSTRACT:

Methods and compositions are provided for preparing stabilized interferons and for combining stabilized interferon with cigarettes. Special domains of the interferon molecule are recognized by methods which are described. A means for constructing these domains by recombinant DNA technology is detailed. A method for stabilizing natural interferons is also described. A process for combining the stabilized interferon with cigarettes is presented.

The combination of interferons and cigarettes is synergistic, especially because interferon effects are magnified at elevated temperatures and because interferon has a preferential effect on tumor cells, but for other reasons as well. The process is not obvious and will be beneficial to a large segment of mankind; those who use tobacco products.

90. 4,495,282, Jan. 22, 1985, Process for producing target cell lysis factor and uses therewith; Haruo Ohnishi, et al., 435/69.5, 70.4; 514/8; 530/350, 351, 395, 808 [IMAGE AVAILABLE]

US PAT NO: 4,495,282 [IMAGE AVAILABLE] L4: 90 of 98

ABSTRACT:

Target Cell Lysis Factor (TCLF) is produced by exposing a human cell line capable of producing TCLF to a TCLF inducer to induce TCLF production, and collecting and purifying the accumulated TCLF. The TCLF which is produced includes lymphotoxin and human Tumor Necrosis Factor (hTNF). The

hTNF may be separated and purified. The human cell lines are preferably human leucocyte and human lymphoblastoid lines, such as BALL-1, TALL-1, NALL-1 Namalwa, MOLT-3, Mono-1, M-7002, B-7101, JBL, EBV-Sa, EBV-Wa,

EBV-HO, BALM 2, CCRF-CEM, DND-41 and CCRF-SB, as well as human cell lines

which are obtainable by transforming normal human monocytes, or granulocytes. All of these human cell lines are multipliable by implanting them in a non-human warm-blooded animal, or alternatively, allowing them to multiply in a conventional-type diffusion chamber by which the nutrient body fluid of a non-human warm-blooded animal is supplied to them.

91. 4,383,036, May 10, 1983, Process for the production of human chorionic gonadotropin; Kaname Sugimoto, 435/70.2, 70.4, 172.2; 530/398; 935/71, 99, 100, 106, 107, 109 [IMAGE AVAILABLE]

US PAT NO: 4,383,036 [IMAGE AVAILABLE] L4: 91 of 98

ABSTRACT:

The present invention relates to a process for the production of human chorionic gonadotropin (hCG).

More precisely, the invention relates to a process for the mass production of hCG, comprising in vivo multiplication of human lymphoblastoid cells capable of producing hCG, and hCG production by the multiplied human lymphoblastoid cells.

The hCG production according to the invention is extremely higher, in terms of hCG production per cell, than that attained by conventional process using in vitro tissue culture; thus, hCG can be used in a sufficient amount in the prevention and treatment of human diseases.

92. 4,383,035, May 10, 1983, Process for the production of human luteinizing hormone; Kaname Sugimoto, 435/70.2, 70.3, 172.2; 530/399; 935/71, 99, 100, 106, 107, 109 [IMAGE AVAILABLE]

US PAT NO: 4,383,035 [IMAGE AVAILABLE] L4: 92 of 98

ABSTRACT:

The present invention relates to a process for the production of human

luteinizing hormone (hLH).
More precisely, the invention relates to a process for the mass production of hLH, comprising in vivo multiplication of human cells capable of producing hLH, using non-human warm-blooded animal, and exposure of the multiplied human cells to a luteinizing hormone inducer. The hLH production according to the invention is extremely higher, in terms of hLH production per cell, than that attained by conventional processes using in vitro tissue culture, thus, hLH can be used in a sufficient amount in the prevention and treatment of human diseases.

93. 4,383,034, May 10, 1983, Process for the production of human follicle-stimulating hormone; Kaname Sugimoto, 435/70.2, 70.3, 172.2; 530/399; 935/71, 99, 100, 107, 109 [IMAGE AVAILABLE]

US PAT NO: 4,383,034 [IMAGE AVAILABLE] L4: 93 of 98

ABSTRACT:
The present invention relates to a process for the production of human follicle-stimulating hormone (hFSH).
More precisely, the invention relates to a process for the mass production of hFSH, comprising in vivo multiplication of human cells capable of producing hFSH, and exposure of the multiplied human cells to a follicle-stimulating hormone inducer.
The hFSH production according to the invention is much higher than that attained by conventional processes using in vitro tissue culture; thus, hFSH can be used in a sufficient amount in the prevention and treatment of human diseases.

94. 4,377,513, Mar. 22, 1983, Process for the production of human erythropoietin; Kaname Sugimoto, et al., 530/395; 435/70.4, 172.2, 848; 530/397, 412, 808, 809, 826, 828, 835, 837; 935/102, 106, 109 [IMAGE AVAILABLE]

US PAT NO: 4,377,513 [IMAGE AVAILABLE] L4: 94 of 98

ABSTRACT:
The present invention relates to a process for the production of human erythropoietin.
More precisely, the invention relates to a process for the mass production of human erythropoietin, comprising in vivo multiplication of human lymphoblastoid cells capable of producing human erythropoietin, and human erythropoietin production by the multiplied human lymphoblastoid cells.
The human erythropoietin production according to the present invention is much higher, in terms of human erythropoietin production per cell, than that attained by conventional processes using in vitro tissue culture; thus, human erythropoietin can be used in a sufficient amount for the prevention and treatment of human diseases.

95. 4,349,629, Sep. 14, 1982, Plasmid vectors, production anduse thereof; Norman H. Carey, et al., 435/172.3, 69.1, 91.41, 320.1; 935/6, 27, 40, 41, 60, 73, 84 [IMAGE AVAILABLE]

US PAT NO: 4,349,629 [IMAGE AVAILABLE] L4: 95 of 98

ABSTRACT:
A plasmid having an insertion site for a eukaryotic DNA fragment adjacent to a bacterial promoter and downstream from a prokaryotic ribosome binding site and initiator codon such that the bacterial promoter controls transcription and translation of an inserted DNA fragment is disclosed.
The production and use of such plasmids is also disclosed.
In general terms, one aspect of the present invention relates to a series of plasmid vectors having the basic characteristic of a Hind III insertion site adjacent to a tryptophan promoter and also a gene for tetracycline resistance. The plasmid vectors are by virtue of the structure thereof ideally suited to receive at the Hind III site an inserted eukaryotic DNA fragment the transcription and translation of which is under the control of the tryptophan promotor.

96. 4,331,589, May 25, 1982, Deoxyribonucleic acid synthesis using binding protein extracted from chick embryo fibroblasts; Paul P. Hung, et al., 530/413; 435/172.3, 178; 530/416, 808, 821, 826; 935/18 [IMAGE AVAILABLE]

US PAT NO: 4,331,589 [IMAGE AVAILABLE] L4: 96 of 98

ABSTRACT:
Described is a method of obtaining complete copying of the entire length of single stranded ribonucleic acid (RNA) into its complementary deoxyribonucleic acid (cDNA) by reverse transcription using binding protein. The method can be used in recombinant DNA research to copy total messenger RNA into DNA.
REL-US-DATA: Continuation-in-part of Ser. No. 112,267, Jan. 5, 1980, abandoned, which is a division of Ser. No. 963,245, Nov. 22, 1978, Pat. No. 4,224,408.

97. 4,262,090, Apr. 14, 1981, Interferon production; Clarence Colby, Jr., et al., 435/91.33; 424/85.1, 85.4; 435/5, 69.51, 172.2, 811; 530/351; 536/23.52; 935/18, 21, 71, 92, 108 [IMAGE AVAILABLE]

US PAT NO: 4,262,090 [IMAGE AVAILABLE] L4: 97 of 98

ABSTRACT:
Method for preparing interferon, mRNA for interferon, and competent recombinant DNA containing dsDNA and cDNA from mRNA coding for mammalian
interferon. The method employs crossing a mutant mammalian cell which is semiconstitutive for interferon with a cell derived from the same or different mammal having wild type gene(s) for interferon and for the regulation of interferon synthesis and desirably having phenotypic properties allowing for selection of the hybrid cells. The desired hybrid clones are then induced to produce IF mRNA, wherein the amounts of mRNA for interferon are greatly enhanced over the amounts normally obtained from wild type cell strains. The mRNA is employed to produce cDNA which codes for the mammalian interferon. The single stranded cDNA is employed as a template to prepare dsDNA which is then combined with a replicon recognized by a microorganism host to provide a recombinant DNA. The microorganism host is transformed with the recombinant DNA, so as to provide a source for the interferon gene, as well as interferon.

98. 4,224,408, Sep. 23, 1980, Deoxyribonucleic acid synthesis using binding protein; Paul P. Hung, et al., 435/91.51, 172.3, 194; 935/18 [IMAGE AVAILABLE]

US PAT NO: 4,224,408 [IMAGE AVAILABLE] L4: 98 of 98

ABSTRACT:
Described is a method of obtaining complete copying of the entire length of single stranded ribonucleic acid (RNA) into its complementary deoxyribonucleic acid (cDNA) by reverse transcription using binding protein. The method can be used in recombinant DNA research to copy total messenger RNA into DNA.

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1. Document ID: US 5888780 A

L4: Entry 1 of 2

File: USPT

Mar 30, 1999

US-PAT-NO: 5888780
DOCUMENT-IDENTIFIER: US 5888780 A
TITLE: Rapid detection and identification of nucleic acid variants
DATE-ISSUED: March 30, 1999

US-CL-CURRENT: 435/91.53; 435/199, 435/975

APPL-NO: 8/ 802233
DATE FILED: February 19, 1997

PARENT-CASE:
This is a Continuation Application of application Ser. No. 08/402,601, filed Mar. 9, 1995, now abandoned which is a Continuation-In-Part Application of application Ser. No. 08/337,164, filed Nov. 9, 1994 now abandoned, which is a Continuation-In-Part Application of application Ser. No. 08/254,359, filed Jun. 6, 1994 now U.S. Pat. No. 5,614,802, which is a Continuation-In-Part Application of application Ser. No. 08/073,384, filed Jun. 4, 1993, now issued as U.S. Pat. No. 5,541,311 on Jul. 30, 1996, which is a Continuation-In-Part Application of application Ser. No. 07/986,330, filed Dec. 7, 1992, now issued as U.S. Pat. No. 5,422,253 on Jun. 6, 1995.

IN: Dahlberg; James E., Lyamichev; Victor I., Brow; Mary Ann D., Oldenburg; Mary C.

AB: The present invention relates to means for cleaving a nucleic acid cleavage structure in a site-specific manner. Enzymes, including 5' nucleases and 3' exonucleases, are used to screen for known and unknown mutations, including single base changes, in nucleic acids. Methods are provided which allow for the identification of genetic mutations and the identification bacterial and viral strains and species in a sample.

L4: Entry 1 of 2

File: USPT

Mar 30, 1999

DOCUMENT-IDENTIFIER: US 5888780 A
TITLE: Rapid detection and identification of nucleic acid variants

BSPR:
The present invention also contemplates a process for detection and identifying strains of microorganisms comprising: a) extracting nucleic acid from a sample suspected of containing a microorganism; b) contacting said extracted nucleic acid with a cleavage means under conditions such that said extracted nucleic acid fonns one or more secondary structures and said cleavage means cleaves said secondary structures resulting in the generation of multiple cleavage products; c) separating said multiple cleavage products d) comparing said separated cleavage products generated from cleavage of nucleic acid isolated from said sample with separated cleavage products generated by cleavage of nucleic acids derived from known microorganisms. In a preferred embodiment, the additional step of isolating a polymorphic locus (e.g, ribosomal genes) from the extracted nucleic acid by restriction enzyme digestion and/or amplification using suitable primers and the PCR is employed after the extraction of step a) to generate a nucleic acid substrate for use in the cleavage reaction.

BSPR:
The present invention also contemplates a process for creating a record reference (e.g., library) of genetic fingerprints characteristic (i.e., diagnostic) of pathogenic microorganisms comprising: a) providing: i) a cleavage means; and ii) a nucleic acid substrate characteristic of (e.g., derived from a polymorphic locus) isolated from a known pathogenic microorganism; b) contacting said nucleic acid substrate with a cleavage means under conditions such that said extracted nucleic acid forms one or more secondary structures and said cleavage means cleaves said secondary structures resulting in the generation of multiple cleavage products; c) separating said multiple cleavage products; and d) maintaining a record reference of said separated cleavage products.

2. Document ID: US 5843669 A

L4: Entry 2 of 2

File: USPT

Dec 1, 1998

US-PAT-NO: 5843669
DOCUMENT-IDENTIFIER: US 5843669 A
TITLE: Cleavage of nucleic acid acid using thermostable methoanococcus jannaschii FEN-1 endonucleases
DATE-ISSUED: December 1, 1998

US-CL-CURRENT: 435/6; 435/18, 435/183, 435/194, 435/195, 435/196, 435/4, 435/810, 435/822, 435/91.53, 436/94, 530/350

APPL-NO: 8/ 757653
DATE FILED: November 29, 1996

PARENT-CASE:
This a Continuation-in-Part of U.S. patent application Ser. No. 08/599,491, filed Jan. 24, 1996.

IN: Kaiser; Michael W., Lyamichev; Victor I., Lyamichev; Natasha

AB: The present invention relates to means for cleaving a nucleic acid cleavage structure in a site-specific manner. Structure-specific nucleases, including 5' nucleases, thennostable FEN-1 endonucleases and 3' exonucleases, are used to detect and identify target nucleic acids. Methods are provided which allow for the detection specific nucleic acid sequences; these methods permit the detection and identification of mutant and wild-type fonns of genes (e.g., human genes) as well as permit the detection and identification of bacterial and viral pathogens in a sample.

L4: Entry 2 of 2

File: USPT

Dec 1, 1998

DOCUMENT-IDENTIFIER: US 5843669 A
TITLE: Cleavage of nucleic acid acid using thermostable methoanococcus

jannaschii FEN-1
endonucleases

BSPR:
Another embodiment of the present invention contemplates a method for detecting and identifying
strains of microorganisms, comprising the steps of extracting nucleic acid from a sample
suspected of containing one or more microorganisms; and contacting the extracted nucleic acid
with a cleavage means under conditions such that the extracted nucleic acid forms one or more
secondary structures, and the cleavage means cleaves the secondary structures to produce one or
more cleavage products.

BSPR:
The present invention also contemplates a process for creating a record reference library of
genetic fingerprints characteristic (i.e., diagnostic) of one or more alleles of the various
microorganisms, comprising the steps of providing a cleavage means and nucleic acid substrate
derived from microbial gene sequences; contacting the nucleic acid substrate with a cleavage
means under conditions such that the extracted nucleic acid forms one or more secondary
structures and the cleavage means cleaves the secondary structures, resulting in the generation
of multiple cleavage products; separating the multiple cleavage products; and maintaining a
testable record reference of the separated cleavage products.

1. Document ID: US 6197557 B1

L14: Entry 1 of 9 File: USPT Mar 6, 2001

US-PAT-NO: 6197557
DOCUMENT-IDENTIFIER: US 6197557 B1
TITLE: Compositions and methods for analysis of nucleic acids
DATE-ISSUED: March 6, 2001

US-CL-CURRENT: 435/91.2; 435/6, 536/23.1, 536/24.3

APPL-NO: 9/ 151236
DATE FILED: September 10, 1998

PARENT-CASE:
The present application is a continuation-in-part of U.S. patent application Ser. No. 09/035,677,
now abandoned, filed Mar. 5, 1998, which is a continuation-in-part of U.S. patent application
Ser. No. 08/811,804 filed Mar. 6, 1997, now U.S. Pat. No. 6,117,634, the entire texts of which
are specifically incorporated herein by reference without disclaimer.

IN: Makarov; Vladimir L., Langmore; John P.

AB: Disclosed are a number of methods that can be used in a variety of embodiments,
including, creation of a nucleic acid terminated at one or more selected bases, sequence
analysis of nucleic acids, mapping of sequence motifs within a nucleic acid, positional
mapping of nucleic acid clones, and analysis of telomeric regions. The methods utilize
double-stranded templates, and in most aspects involve a strand replacement reaction
initiated at one or more random or specific locations created in a nucleic acid molecule,
and in certain aspects utilizing an oligonucleotide primer.

L14: Entry 1 of 9 File: USPT Mar 6, 2001

DOCUMENT-IDENTIFIER: US 6197557 B1
TITLE: Compositions and methods for analysis of nucleic acids

BSPR:
The current limitations to conventional applications of the Sanger method include 1) the limited
resolving power of polyacrylamide gel electrophoresis, 2) the formation of intermolecular and
intramolecular secondary structure of the denatured template in the reaction mixture, which can
cause any of the polymerases to prematurely terminate synthesis at specific sites or
misincorporate ddNTPs at inappropriate sites, 3) secondary structure of the DNA on the sequencing
gels can give rise to compressions of the electrophoretic ladder at specific locations in the
sequence, 4) cleavage of the template, primers and products with the 5'-3' or 3'-5' exonuclease
activities in the polymerases, and 5) mispriming of synthesis due to hybridization of the
oligonucleotide primers to multiple sites on the denatured template DNA. The formation of
intermolecular and intramolecular secondary structure produces artificial terminations that are
incorrectly "read" as the wrong base, gives rise to bands across four lanes (BAFLs) that produce
ambiguities in base reading, and decrease the intensity and thus signal-to-noise ratio of the
bands. Secondary structure of the DNA on the gels can largely be solved by incorporation of dITP
or 7-deaza-dGTP into the synthesized DNA; DNA containing such modified NTPs is less likely to
form urea-resistant secondary structure during electrophoresis. Cleavage of the template, primers
or products leads to reduction in intensity of bands terminating at the correct positions and
increase the background. Mispriming gives rise to background in the gel lanes.

2. Document ID: US 6117634 A

L14: Entry 2 of 9 File: USPT Sep 12, 2000

US-PAT-NO: 6117634
DOCUMENT-IDENTIFIER: US 6117634 A
TITLE: Nucleic acid sequencing and mapping
DATE-ISSUED: September 12, 2000

US-CL-CURRENT: 435/6; 435/91.2

APPL-NO: 8/ 811804
DATE FILED: March 6, 1997

IN: Langmore; John P., Markarov; Vladimir L.

AB: An improvement over the standard Sanger Method for nucleic acid sequencing is
described. The novel method does not require denaturation of double-stranded template;
rather, sequencing can be carried out directly on the double-stranded template. Embodiments
are described with and without oligonucleotide primers.

L14: Entry 2 of 9 File: USPT Sep 12, 2000

DOCUMENT-IDENTIFIER: US 6117634 A
TITLE: Nucleic acid sequencing and mapping

BSPR:
The current limitations to conventional applications of the Sanger Method include 1) the limited resolving power of polyacrylamide gel electrophoresis, 2) the formation of intermolecular and intramolecular secondary structure of the denatured template in the reaction mixture, which can cause any of the polymerases to prematurely terminate synthesis at specific sites or misincorporate ddNTPs at inappropriate sites, 3) secondary structure of the DNA on the sequencing gels can give rise to compressions of the electrophoretic ladder at specific locations in the sequence, 4) cleavage of the template, primers and products with the 5'-3' or 3'-5' exonuclease activities in the polymerases, and 5) mispriming of synthesis due to hybridization of the oligonucleotide primers to multiple sites on the denatured template DNA. The formation of intermolecular and intramolecular secondary structure produces artificial terminations that are incorrectly "read" as the wrong base, gives rise to bands across four lanes (BAFLs) that produce ambiguities in base reading, and decrease the intensity and thus signal-to-noise ratio of the bands. Secondary structure of the DNA on the gels can largely be solved by incorporation of dITP or 7-deaza-dGTP into the synthesized DNA; DNA containing such modified NTPs is less likely to form urea-resistant secondary structure during electrophoresis. Cleavage of the template, primers or products leads to reduction in intensity of bands terminating at the correct positions and increase the background. Mispriming gives rise to background in the gel lanes.

3. Document ID: US 6027884 A

L14: Entry 3 of 9 File: USPT Feb 22, 2000

US-PAT-NO: 6027884
DOCUMENT-IDENTIFIER: US 6027884 A
TITLE: Thermodynamics, design, and use of nucleic acid sequences
DATE-ISSUED: February 22, 2000

US-CL-CURRENT: 435/6; 435/5, 536/24.3, 536/24.33

APPL-NO: 8/ 763417
DATE FILED: December 11, 1996

PARENT-CASE:
This application is a continuation of application Ser. No. 08/260,200 filed on Jun. 16, 1994 Entitled: "Thermodynamics, Design, and Use of Nucleic Acid Sequences"; now abandoned which is a continuation-in-part of U.S. Ser. No. 08/224,840, filed Apr. 8, 1994, now abandoned, which is a continuation-in-part of U.S. Ser. No. 08/078,759, filed Jun. 17, 1993, now abandoned which are hereby incorporated by reference.

IN: Lane; Michael J., Benight; Albert S., Faldasz; Brian D.

AB: A method of providing the sequence of a single stranded nucleic acid molecule, which, when hybridized to a complementary single stranded molecule, results in a double stranded (duplex) structure having a preselected value for a free energy parameter.

L14: Entry 3 of 9 File: USPT Feb 22, 2000

DOCUMENT-IDENTIFIER: US 6027884 A
TITLE: Thermodynamics, design, and use of nucleic acid sequences

DEPR:
A nucleic acid binding ligand, as used herein refers to one or more of: a compound which binds to a nucleic acid in a sequence-specific way (e.g., a sequence specific cleavage enzyme, such as a restriction endonuclease, including EcoRI, HaeIII, and BglI, or an enzyme or other molecule which binds to a specific sequence, e.g., molecules which modulate the expression of a product encoded by a nucleic acid) or in a sequence-non-specific way (e.g., DNaseI or micrococcal nuclease); a protein; an enzyme; an enzyme or other molecule (and agonists or antagonists thereof) which alters the structure of a nucleic acid to which is binds, e.g., by breaking or forming a covalent or non-covalent bond, e.g., a hydrogen bond, between an atom of the nucleic acid and another atom, e.g., an atom of the same strand, an atom of the complementary sequence, or an atom of another molecule; an enzyme which cleaves one or both strands of the nucleic acid, and agonists or antagonists thereof; an enzyme which methylates or alkylates the nucleic acid, and agonists or antagonists thereof; an enzyme which promotes or catalyzes the synthesis of a nucleic acid, e.g., a polymerase which requires a double stranded prime, and agonists or antagonists thereof; a DNA polymerase, e.g., DNA polymerase I or Taq polymerase, and agonists or antagonists thereof; an enzyme which alters the primary or secondary structure of a nucleic acid, e.g., a topoisomerase, or an enzyme related to recombination or replication, and agonists or antagonists thereof; a DNA binding ligand, and agonists or antagonists thereof; a mutagen; a compound which enhances gene expression, and agonists or antagonists thereof; a compound which intercalates into a double stranded nucleic acid, and agonists or antagonists thereof; a compound which, when contacted with a reaction mixture comprising a first single stranded nucleic acid and a second single stranded nucleic acid will accelerate the rate of duplex formation at least n-fold, wherein n is an integer between 2 and 1,000, inclusive; a compound which will decrease the free energy of duplex formation by n-fold, wherein n is an integer between 1 and 1,000 inclusive; a small molecule, e.g., any metalloorganic compound, any heterocyclic compound, or any protein which binds a nucleic acid; proteins or other molecules which are associated with the structural organization of DNA in the cell nucleus, or the packaging of DNA, including histones and nucleosomes; nucleic acid binding mutagens or carcinogens, or agonists or antagonists thereof; viral proteins and agonists or antagonists thereof.

4. Document ID: US 5888780 A

L14: Entry 4 of 9 File: USPT Mar 30, 1999

US-PAT-NO: 5888780
DOCUMENT-IDENTIFIER: US 5888780 A
TITLE: Rapid detection and identification of nucleic acid variants
DATE-ISSUED: March 30, 1999

US-CL-CURRENT: 435/91.53; 435/199, 435/975

APPL-NO: 8/ 802233
DATE FILED: February 19, 1997

PARENT-CASE:
This is a Continuation Application of application Ser. No. 08/402,601, filed Mar. 9, 1995, now abandoned which is a Continuation-In-Part Application of application Ser. No. 08/337,164, filed Nov. 9, 1994 now abandoned, which is a Continuation-In-Part Application of application Ser. No. 08/254,359, filed Jun. 6, 1994 now U.S. Pat. No. 5,614,802, which is a Continuation-In-Part Application of application Ser. No. 08/073,384, filed Jun. 4, 1993, now issued as U.S. Pat. No. 5,541,311 on Jul. 30, 1996, which is a Continuation-In-Part Application of application Ser. No. 07/986,330, filed Dec. 7, 1992, now issued as U.S. Pat. No. 5,422,253 on Jun. 6, 1995.

IN: Dahlberg; James E., Lyamichev; Victor I., Brow; Mary Ann D., Oldenburg; Mary C.

AB: The present invention relates to means for cleaving a nucleic acid cleavage structure in a site-specific manner. Enzymes, including 5' nucleases and 3' exonucleases, are used to screen for known and unknown mutations, including single base changes, in nucleic acids. Methods are provided which allow for the identification of genetic mutations and the identification bacterial and viral strains and species in a sample.

L14: Entry 4 of 9 File: USPT Mar 30, 1999

DOCUMENT-IDENTIFIER: US 5888780 A
TITLE: Rapid detection and identification of nucleic acid variants

BSPR:
The present invention further contemplates a method for detecting sequence variation in nucleic acid target substrates comprising: a) providing: i) a thermostable DNA polymerase altered in amino acid sequence such that it exhibits reduced DNA synthetic activity from that of the wild-type DNA polymerase but retains substantially the same 5' nuclease activity of the wild-type DNA polymerase; and ii) a nucleic acid target substrate suspected of containing sequence variation relative to a wild type control; b) mixing said polymerase and said substrate under conditions such that said substrate forms one or more secondary structures and said polymerase cleaves said secondary structures resulting in the generation of multiple cleavage products; and c) separating said multiple cleavage products so as to detect said sequence variation. With regard to the polymerase, a complete absence of synthesis is not required; it is desired that cleavage reactions occur in the absence of polymerase activity at a level where it interferes with the method. In one embodiment, the method further comprises step d) comparing said separated cleavage products from said target nucleic acid with a wild type control. In one embodiment, the nucleic acid target contains a fluorescent label and the detection of step c) comprises detection of said fluorescently labelled fragments.

5. Document ID: US 5843654 A

L14: Entry 5 of 9 File: USPT Dec 1, 1998

US-PAT-NO: 5843654
DOCUMENT-IDENTIFIER: US 5843654 A
TITLE: Rapid detection of mutations in the p53 gene
DATE-ISSUED: December 1, 1998

US-CL-CURRENT: 435/6; 435/194, 435/91.1

APPL-NO: 8/ 484956
DATE FILED: June 7, 1995

PARENT-CASE:
This is a Continuation Application of application Ser. No. 08/402,601, filed Mar. 9, 1995, which is a Continuation-In-Part Application of application Ser. No. 08/337,164, filed Nov. 9, 1994, now abandoned, which is a Continuation-In-Part Application of application Ser. No. 08/254,359, filed Jun. 6, 1994, now issued as U.S. Pat. No. 5,614,402 on Mar. 25, 1997, which is a Continuation-In-Part Application of application Ser. No. 08/073,384, filed Jun. 4, 1993, now issued as U.S. Pat. No. 5,541,311 on Jul. 30, 1996, which is a Continuation-In-Part Application of application Ser. No. 07/986,330, filed Dec. 7, 1992, now issued as U.S. Pat. No. 5,422,253 on Jun. 6, 1995.

IN: Heisler; Laura M., Fors; Lance, Brow; Mary Ann D.

AB: The present invention relates to means for cleaving a nucleic acid cleavage structure in a site-specific manner. Enzymes, including 5' nucleases and 3' exonucleases, are used to screen for known and unknown mutations, including single base changes, in the human p53 gene. Methods are provided which allow for the identification of genetic mutations in the human p53 gene in a sample.

L14: Entry 5 of 9 File: USPT Dec 1, 1998

DOCUMENT-IDENTIFIER: US 5843654 A
TITLE: Rapid detection of mutations in the p53 gene

BSPR:
The present invention further contemplates a method for detecting sequence variation in nucleic acid target substrates comprising: a) providing: i) a thermostable DNA polymerase altered in amino acid sequence such that it exhibits reduced DNA synthetic activity from that of the wild-type DNA polymerase but retains substantially the same 5' nuclease activity of the wild-type DNA polymerase; and ii) a nucleic acid target substrate containing human p53 gene sequences suspected of containing sequence variation relative to a wild type control; b) mixing said polymerase and said substrate under conditions such that said substrate forms one or more secondary structures and said polymerase cleaves said secondary structures resulting in the generation of multiple cleavage products; and c) separating said multiple cleavage products so as to detect said sequence variation. With regard to the polymerase, a complete absence of synthesis is not required; it is desired that cleavage reactions occur in the absence of polymerase activity at a level where it interferes with the method. In one embodiment, the method further comprises step d) comparing said separated cleavage products from said target nucleic acid with a wild type control. In one embodiment, the nucleic acid target contains a fluorescent label and the detection of step c) comprises detection of said fluorescently labelled fragments.

6. Document ID: US 5719028 A

L14: Entry 6 of 9 File: USPT Feb 17, 1998

US-PAT-NO: 5719028
DOCUMENT-IDENTIFIER: US 5719028 A
TITLE: Cleavase fragment length polymorphism
DATE-ISSUED: February 17, 1998

US-CL-CURRENT: 435/6; 435/19, 435/199, 435/91.53

APPL-NO: 8/ 789079
DATE FILED: February 6, 1997

PARENT-CASE:
This is a Continuation Application of application Ser. No. 08/337,164, filed Nov. 9, 1994, abandoned, which is a Continuation-In-Part Application of application Ser. No. 08/254,359, filed Jun. 6, 1994, now U.S. Pat. No. 5,614,402, which is a Continuation-In-Part Application of application Ser. No. 08/073,384, filed Jun. 4, 1993, now U.S. Pat. No. 5,541,311, which is a Continuation-In-Part Application of application Ser. No. 07/986,330, filed Dec. 7, 1992, now U.S. Pat. No. 5,422,253.

IN: Dahlberg; James E., Lyamichev; Victor I., Brow; Mary Ann D., Oldenburg; Mary C.

AB: A means for cleaving a nucleic acid cleavage structure in a site-specific manner is disclosed. A cleaving enzyme having 5' nuclease activity without interfering nucleic acid synthetic ability is employed as the basis of a novel method of detection of specific nucleic acid sequences.

L14: Entry 6 of 9 File: USPT Feb 17, 1998

DOCUMENT-IDENTIFIER: US 5719028 A
TITLE: Cleavase fragment length polymorphism

BSPR:
The present invention further contemplates a method for detecting sequence variation in nucleic acid target substrates comprising: a) providing: i) a thermostable DNA polymerase altered in amino acid sequence such that it exhibits reduced DNA synthetic activity from that of the wild-type DNA polymerase but retains substantially the same 5' nuclease activity of the wild-type DNA polymerase; and ii) a nucleic acid target substrate suspected of containing sequence variation relative to a wild type control; b) mixing said polymerase and said substrate under conditions such that said substrate forms one or more secondary structures and said polymerase cleaves said secondary structures resulting in the generation of multiple cleavage products; and c) separating said multiple cleavage products so as to detect said sequence variation. With regard to the polymerase, a complete absence of synthesis is not required; it is desired that cleavage reactions occur in the absence of polymerase activity at a level where it interferes with the method. In one embodiment, the method further comprises step d) comparing said separated cleavage products from said target nucleic acid with a wild type control. In one embodiment, the nucleic acid target contains a fluorescent label and the detection of step c) comprises detection of said fluorescently labelled fragments.

CLPV:
b) mixing said polymerase and said substrate under conditions such that said substrate forms one or more secondary structures and said polymerase cleaves said secondary structures resulting in the generation of multiple cleavage products; and

7. Document ID: US 5607691 A

L14: Entry 7 of 9 File: USPT Mar 4, 1997

US-PAT-NO: 5607691
DOCUMENT-IDENTIFIER: US 5607691 A
TITLE: Compositions and methods for enhanced drug delivery
DATE-ISSUED: March 4, 1997

US-CL-CURRENT: 424/449; 514/1, 514/169, 514/183, 514/2, 514/26, 514/553, 514/556, 604/20

APPL-NO: 8/ 449188
DATE FILED: May 24, 1995

PARENT-CASE:
This is a Continuation of application Ser. No. 08/164,293, filed Dec. 9, 1993 now abandoned, which is a continuation-in-part of application Ser. No. 08/077,296, filed

Jun. 14, 1993 which is
a continuation-in-part of applications Ser. Nos. 07/898,219, filed Jun. 12, 1992 now abandoned,
and 08/009,463, filed Jan. 27, 1993 now abandoned. Each of the above identified applications are
incorporated herein by reference for all purposes.

IN: Hale; Ron L., Lu; Amy, Solas; Dennis, Selick; Harold E., Oldenburg; Kevin R.,
Zaffaroni; Alejandro C.

AB: The present invention relates to methods of delivering pharmaceutical agents
across membranes, including the skin layer or mucosal membranes of a patient. A
pharmaceutical agent is covalently bonded to a chemical modifier, via a physiologically
cleavable bond, such that the membrane transport and delivery of the agent is enhanced.

L14: Entry 7 of 9 File: USPT Mar 4, 1997

DOCUMENT-IDENTIFIER: US 5607691 A
TITLE: Compositions and methods for enhanced drug delivery

DEPR:
In addition, any of a variety of other methodologies can be used, including Bal 31 nuclease
digestion of DNA followed by radioactive labeling, "nick translation" or "random primer
synthesis", which uses Dnase 1 or random oligonucleotide primers, respectively, to create
primer-template junctions for the incorporation of radioactively-labeled deoxynucleosides by DNA
polymerases, etc. The labeled DNA's should be in sufficient molar excess over their templates, as
well as devoid of detectable secondary structures (unless engineered into the template sequence),
to ensure that no higher order, macromolecular structures are formed.

8. Document ID: US 5410020 A

L14: Entry 8 of 9 File: USPT Apr 25, 1995

US-PAT-NO: 5410020
DOCUMENT-IDENTIFIER: US 5410020 A
TITLE: Method for preparing metallopeptides having stabilized secondary structures
DATE-ISSUED: April 25, 1995

US-CL-CURRENT: 530/333; 530/300, 530/304, 530/325, 530/326, 530/345

APPL-NO: 8/ 006037
DATE FILED: January 19, 1993

PARENT-CASE:
CROSS REFERENCE TO RELATED APPLICATION This is a divisional of application Ser. No. 07/591,988,
filed Oct. 2, 1990, now U.S. Pat. No. 5,200,504, the disclosures of which are incorporated by
reference herein.

IN: Ghadiri; M. Reza

AB: The invention contemplates a metallopeptide and a method for producing the
metallopeptide. The metallopeptide comprises a polypeptide bonded to a metal cation at two
coordinating amino acid residues that are aqueous solvent-accessible, said metallopeptide
having a secondary structure stabilized by said bonded metal cation.

L14: Entry 8 of 9 File: USPT Apr 25, 1995

DOCUMENT-IDENTIFIER: US 5410020 A
TITLE: Method for preparing metallopeptides having stabilized secondary structures

DEPR:
One advantage is provided by the increased thermostability of the polypeptide in a metallopeptide
composition of this invention. Temperature lability is a major cause of loss of activity by
enzymes and other proteins. Thus increasing thermostability will prolong the half life of an
enzyme in bioreactors and in high temperature reactors. Exemplary enzymes particularly preferred
for stabilization and having candidate secondary structures are high temperature thermostable DNA
dependent DNA polymerases, staphylococcal nuclease, ribonucleases, and the like thermostabilized
metalloproteins.

9. Document ID: US 5200504 A

L14: Entry 9 of 9 File: USPT Apr 6, 1993

US-PAT-NO: 5200504
DOCUMENT-IDENTIFIER: US 5200504 A
TITLE: Metallopeptides having stabilized secondary structures
DATE-ISSUED: April 6, 1993

US-CL-CURRENT: 530/304; 530/300, 530/325, 530/326

APPL-NO: 7/ 591988
DATE FILED: October 2, 1990

IN: Ghadiri; Reza M.

AB: The invention contemplates a metallopeptide and a method for producing the
metallopeptide. The metallopeptide comprises a polypeptide bonded to a metal cation at two
coordinating amino acid residues that are aqueous solvent-accessible, said metallopeptide
having a secondary structure stabilized by said bonded metal cation.

L14: Entry 9 of 9 File: USPT Apr 6, 1993

DOCUMENT-IDENTIFIER: US 5200504 A

TITLE: Metallopeptides having stabilized secondary structures

DEPR:
One advantage is provided by the increased thermostability of the polypeptide in a metallopeptide composition of this invention. Temperature lability is a major cause of loss of activity by enzymes and other proteins. Thus increasing thermostability will prolong the half life of an enzyme in bioreactors and in high temperature reactors. Exemplary enzymes particularly preferred for stabilization and having candidate secondary structures are high temperature thermostable DNA dependent DNA polymerases, staphylococcaL nuclease, ribonucleases, and the like thermostabilized metalloproteins.